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Skeptical Science

The Pyrrhonian critique of *technai* in *Against the Professors* (M I-VI)

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Skeptical Science

The Pyrrhonian critique of *technai* in *Against the Professors* (M I-VI)

by

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The central question of this dissertation is “What is the character of a skeptical expertise?” Sextus Empiricus, our primary source for Pyrrhonian skepticism, tells us that a skeptic has the ability to oppose thoughts and appearances in any number of ways in order to create an equally weighted dispute which results in *epochē*, the suspension of judgment (*Outlines of Pyrrhonism* [=PH] I 8). Scholars have debated the extent to which skeptics eschewed beliefs, but one thing is clear, the skeptic does not assent to the dogmatic claims of philosophy and science (PH I 13). This raises to group of related puzzles since Sextus also says that skeptics accept certain forms of expertise (*technai*) (PH I 24). If skeptics accept and practice certain *technai*, but also suspend judgment about all scientific or philosophical beliefs, what kind of science do they practice? I answer this question by interpreting Sextus' treatise *Against the Professors* (M I-VI), which offers his most thorough look at particular subjects of expertise. I argue for the

following characteristics of skeptical *technai*: First, an adequate skeptical expertise is constituted by a collection of correlated observed phenomena (what he calls commemorative signs) established empirically through repeated observations, and always open to revision. The objects of these *technai* are limited to observable domains; that is, both the sign and the signified can in some sense be observed. All the same, commemorative signs allow the skeptic to predict future observable occurrences. Second, skeptical expertise is a non-axiomatic or, more generally, non-foundationalist science. Pyrrhonists did not ground the scientific domain in first principles in the way that many ancient philosophers of science do. Finally, the skeptical expertise is normative, but strictly in a relativistic sense. Scientific norms are tied to relative utility rather than truth. No expertise can be countenanced that offers theoretical rewards, just as no theoretical objects may be signified. Skeptical expertise is not some grand solution, but it achieves what is needed for practical purposes.

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Chapter 1: Skeptical Attitudes toward Expertise

Skepticism about learning was central to the Pyrrhonian attack on dogmatic philosophy.¹ Sextus Empiricus rehearses arguments against learning in every one of his extant works; Diogenes Laertius also makes brief mention of them.² These arguments are closely tied to the skeptic's attitude toward expertise (*technē*) insofar as Sextus only presents the arguments against learning when he is attacking a form of expertise.³

Granted, doubts about education began well before Pyrrhonian skepticism; they are clearly evident in pre-Socratic philosophy.⁴ Plato dedicates several dialogues to questions about education and the possibility of learning.⁵ Even Aristotle dismisses skeptical worries about learning at the beginning of the *Posterior Analytics*.⁶ In these

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- 1 Since this work focuses on Pyrrhonian arguments against various forms of expertise and subjects of learning, when I use the term skeptic or skepticism, I mean Pyrrhonian skepticism and especially the Sextan variety unless I specify otherwise.
 - 2 Sextus uses the same set of arguments three times: Once in *Outlines of Pyrrhonism* (*PH*) III 252-272; toward the end of *Against the Ethicists* (*Adversus Mathematicos* [=M] XI) 216-256; and finally near the opening of *MI* (9-40). Diogenes Laertius (DL) mentions the arguments against learning at DL IX 90 and briefly gives an argument against learning at DL IX 100.
 - 3 In the *Outlines* and *Against the Ethicists*, Sextus uses the arguments while attacking the Stoic notion of an “Expertise in Life” (*technē tou biou*). In *Against the Professors*, Sextus uses the arguments to attack learning before going on to attack several particular *technai*, such as grammar or rhetoric.
 - 4 For example, Xenophanes criticizes traditional education, saying that “Since from the beginning all have learned according to Homer” (Diels-Kranz [=DK] fragment 21B10; trans. of Xenophanes taken from Leshner (1992)) and that “Homer and Hesiod have attributed to the gods all sorts of things which are matters of reproach and censure among men: theft, adultery, and mutual deceit” (DK 21B11, cf. DK 21B12). He tends to contrast the problems in the tradition with what he sees as the beneficial alternative, so he praises the man who shows us good things (τὰ ἐσθλὰ), and who ignores the earlier falsehoods (πλάσματα τῶν προτέρων) (DK 21B1). Xenophanes portrays himself as a corrective to these longstanding mistakes, noting that he tosses around his wisdom (DK 21B8). Likewise, he criticizes those who prefer strength to his good wisdom (οὐδὲ δίκαιον / προκρίνειν ῥώμην τῆς ἀγαθῆς σοφίης) (DK 21B2).
 - 5 Most notably *Meno* and *Protagoras* although education is a central focus in *Republic* and *Laws* as well. See for example *Rep.* 376d9- 383c7 where Socrates discusses the educational program in his city and where he reiterates Xenophanes’ criticism that traditional education teaches theological falsehoods.
 - 6 *An. Post.* I 1 71a1-71b8

early debates, skeptical questions about education centered, not only on general worries about whether learning was possible at all,⁷ but also on more specific concerns - for example, is it possible to teach virtue⁸ or medicine⁹ in particular?

The Pyrrhonian skeptics attacked education both in general, arguing that learning itself is not possible, and also with particular foci, arguing that this or that subject could not be learned or that some particular method of teaching was not conducive to learning. However, not everything Sextus says about education and expertise is negative. In certain passages, he seems to speak favorably about these topics, as, for example, when he says that the skeptic is able to learn a skill, a *technē* (*PH* I 24). If the skeptic claims both to suspend judgment about whether *technē* exists, and at the same time to teach or learn an skill, then the dogmatist may have reasonable grounds to accuse the skeptic of a kind of incoherence. Obviously, it is difficult to interpret what Sextus says about learning and expertise, and his claims on these topics are puzzling. On the one hand, Pyrrhonian skeptics appear to question the possibility of learning anything (*PH* III 252-272; *M* XI 216-256; *M* I 9-40); on the other hand, Sextus thinks that the skeptic is able to learn certain disciplines (*PH* I 24, 237; *M* I 5).¹⁰

My central purpose in this work is to make sense of the notion of a skeptical

7 *Meno* 80d5-86c3..

8 This is the central question of *Dissoi Logoi* VI. cf. *Protagoras* 319a3-320c1; *Meno* 70a1-4 and 87c5-d1. In addition, the neglected little dialogue *Clitophon* is essentially a rant against Socrates for not teaching the virtue he praises. These worries continued into the Hellenistic and Roman periods as evidenced by such works as Plutarch's *Can Virtue be Taught?* (*Moralia* 439a-440c).

9 For example, the Hippocratic treatise *Concerning the Art* addresses an opponent who obviously challenges whether medicine is an expertise with a system of doctrine that can be taught and understood by doctors.

10 In *Against the Ethicists*, Sextus even suggests that skepticism can teach us to live the happy life (*M* XI 140).

expertise and to explain how Sextus conceives of such a discipline.¹¹ I believe that this task may be accomplished by reading *M I-VI (Against the Professors)* closely together with Sextus' *Outlines*.¹² Before we examine these works, it is important to clarify the question itself, as there are, in fact, several puzzles raised by Sextus' attacks on education and expertise in the *Outlines of Pyrrhonism* and *Adversus Mathematicos*. In this chapter, I will begin by presenting the skeptical disposition. Next, I will introduce Sextus' attack on the arts and examine the things he says about skeptical learning and skeptical expertise. This will include laying out problems and questions regarding these topics. I will look at attempts to solve these puzzles in order to show why these attempts fail (or provide a rather dissatisfying interpretation of Sextus' work). My ultimate purpose is to solve these puzzles by answering the question “What is the character of skeptical expertise?”

1.1. The Skeptical Disposition

Sextus avoids being pinned down on most any topic, and expertise is no exception. When he begins his *Outlines*, he distinguishes between three attitudes that one

11 By “skeptical expertise”, I mean a subject or discipline that skeptics would have accepted as apparently consistent with skeptical philosophy. Note that, as the title of this work suggests, I will sometimes use the phrase “skeptical science” as synonymous with “skeptical expertise.” When I do so, I mean to use the word “science” in a non-technical sense. By using the titular phrase, I do not intend to suggest that the skeptic would develop theories that are meant to explain the physical world. Nor do I think that ancient thinkers generally viewed *epistēmē* and *technē* as equivalent; many were careful to distinguish these (although others ran them together). Rather, I think that the *technē* skeptics viewed as acceptable bears an important similarity to a certain form of modern empirical science; therefore, it deserves the title “science” in a loose sense. What I say here is not meant as an argument in favor of this usage. The case for calling the skeptic's *technē* a science will unfold as a central theme of this work.

12 Note that the treatise that I focus on in this dissertation (*M I-VI*) comes down to us in the manuscript tradition as part of an eleven book work (i.e. *M I-XI*). However, it has long been recognized that *M I-VI* represents a treatise in its own right (I discuss the reasons why in section 1.2). Although all eleven books are traditionally called *Adversus Mathematicos*, I will use the traditional English title *Against the Professors* to refer only to the first six books (*M I-VI*).

might take relative to any question Q. The first is the dogmatic position that the truth about Q has been discovered; Sextus connects this position to the schools of the Peripatetics, the Epicureans and the Stoics. The second is the negative dogmatic position that characterizes the Academics who claim that the answer to Q is inapprehensible, it cannot be grasped or understood.¹³ The third is the skeptical position; the Pyrrhonian continues to investigate (*PH* I 3).

Sextus explains that the skeptic does not answer the question Q because of the character of the skeptical way of life (*agogē*). He defines skepticism as an ability (*dunamis*) that “sets oppositions in any way at all among things which both appear and are thought” (*PH* I 8).¹⁴ This ability allows the skeptic to bring equally weighted accounts on either side of a conflict such that she cannot be swayed one way or the other. Both sides of the question seem equally convincing to the skeptic, so she cannot decide between them. The result is a suspension of judgment (*epochē*) regarding any Q that the skeptic investigates; that is, the skeptic suspends judgment regarding the truth or falsehood of Q (*PH* I 10; cf. 190, 196, 203).

Many scholars have wondered about the scope of the skeptic's *epochē*.¹⁵ Sextus

13 This is the way that Sextus describes the Academic position, but it is probably not the position of the actual Academics. For recent interpretations of Academic philosophy and its relationship to Pyrrhonian skepticism, see Frede (1984); Hankinson (1995, 74–115); Striker (1996a); Striker (2010); Thorsrud (2010).

14 “Ἔστι δὲ ἡ σκεπτική δύναμις ἀντιθετική φαινομένων τε καὶ νοουμένων καθ’ οἷονδήποτε τρόπον (*PH* I 8). Translations of Sextus are generally my own. However, I have benefited greatly from referring to the Annas and Barnes (2000) translation of the *Outlines*, and I have in some cases taken whole phrases from it.

15 What follows is meant as a brief overview of my interpretation of Sextus' philosophy. I plan to discuss the scholarly debate on the scope of skepticism more thoroughly in the next chapter. Nearly everyone that works on ancient skepticism expresses a view on this question. The classic exposition of this debate is conveniently collected Burnyeat and Frede (1997). Accounts that I have found particularly helpful Brunschwig (1994), and Hankinson (1995, 273–292). For more recent takes, see Barnes (2007), and Perin (2010).

claims that the skeptic does not hold beliefs (*PH* I 12, 24), but he qualifies this claim: The skeptic does not hold beliefs if belief is understood as “assent [*sunkatathesis*] to something among the unclear matters investigated in the sciences [*epistēmai*] – for Pyrrhonists do not assent to anything unclear” (*PH* I 13).¹⁶ If skeptical *epochē* is limited to those things that science and philosophy investigate, the skeptic could assent to many things: that this table is here or that this scotch is peaty. However, the issue is complicated by the fact that Sextus clearly *did* attack everyday beliefs held by ordinary people, for example, regarding the existence of gods (*PH* III 2-12, *M* IX 13-193), or place (*PH* III 119-135, *M* X 1-36), or time (*PH* III 136-150, *M* X 169-247). So it appears that the scope of skeptical *epochē* extends much further than Sextus initially lets on.

While some scholars have been tempted to characterize Sextus' skepticism as entirely devoid of belief, Sextus claims several times that the skeptic is free to assent to those feelings that are forced upon her by appearances (*PH* I 13, 15, 19). For example, the skeptic admits that the honey seems sweet to her even if she does not claim that it is in fact sweet (*PH* I 20). It is also clear that, for Sextus, the appearances extend beyond our immediate physical sensations and perceptions. In an effort to answer the objection that the skeptic cannot investigate if she only assents to the appearances, Sextus responds that the skeptic can think about things as long as those thoughts “come about both from passive impressions in accord with what clearly appears to the skeptic, and do not at all lead to the reality of the things that are thought” (*PH* II 10).¹⁷ It looks like the skeptic is

16 ...τήν τινι πράγματι τῶν κατὰ τὰς ἐπιστήμας ζητουμένων ἀδήλων συγκατάθεσιν (οὐδενὶ γὰρ τῶν ἀδήλων συγκατατίθεται ὁ Πυρρώνειος). (*PH* I 13).

17 νοήσεως γὰρ οὐκ ἀπείργεται ὁ σκεπτικός, οἶμαι, ἀπὸ τε τῶν παθητικῶς ὑποπιπτόντων <καὶ> κατ' ἐνάργειαν φαινομένων αὐτῷ γινομένης καὶ μὴ πάντως εἰσαγωγούσης τὴν ὑπαρξιν τῶν νοουμένων. (*PH* II 10). I follow Annas and Barnes by excluding λόγων after αὐτῷ here.

able to assent to those thoughts and feelings or 'seemings' that strike her, for example, that the table seems to be here or that this scotch seems peaty, or even that adding a pair of apples to the bag will yield a dozen.

The appearances are also important in Sextus' explanation for skeptical action. Sextus says that, while the skeptic does not affirm a criterion of truth (nor does she reject one), she does have a criterion of action.¹⁸ A criterion is something by which another thing is judged; so for example, a length is judged by a ruler, a standard of measurement. The criterion of truth is used to determine what is true and what is false, and Sextus says that the skeptic investigates whether a criterion of truth even exists (*PH* II 18-19). On the other hand, a criterion of action is that “by which, when we attend to it in life, we do some things and do not do others” (*PH* I 21).¹⁹ In other words, it judges which actions should be done and which should not (keeping in mind that these are not dogmatic claims). Sextus says that the criterion of action is appearance (*phainomenon*) which he equates with impression or presentation (*phantasia*), and he explains why the skeptics are allowed to follow their impressions: “For since it is grounded in passive and involuntary ways of being affected [*pathē*], it cannot be investigated” (*PH* I 22).²⁰ The appearances cannot be investigated *as appearances* because they come from *pathē* that are beyond the skeptics' control. And so they cannot be among those things about which the skeptic refuses to assent because – as I noted above – Sextus explicitly says that the skeptic

18 For Sextus' attack on the criterion of truth see *PH* II 14-79. In addition, the whole of *M* VII is dedicated to treating the criterion. For more on the criterion, see Annas (1980), Long (1988), Brunschwig (1988), Huby and Neal (1989), Striker (1990), Hankinson (1995, 193–212), Striker (1996b), and Brennan (2000).

19 ὃ προσέχοντες κατὰ τὸν βίον τὰ μὲν πράσσομεν τὰ δ' οὐ. (*PH* I 21).

20 ἐν πείσει γὰρ καὶ ἀβουλήτῳ πάθει κειμένη ἀζήτητός ἐστιν (*PH* I 22).

assents to the passive appearances that are forced on her.

Sextus expands on how the criterion of action works, saying that “while we attend to the appearances, we live without belief according to the observance pertaining to life [*biōtikē*] ” (*PH* I 23).²¹ He goes on to explain that “*biōtikē* observance” is four-fold: The first is found in nature's guidance; the second in necessity of feelings or ways of being affected; the third in transmission of laws and customs; and the last in teaching of arts (*en didaskaliai technōn*). So the teaching of the arts guides the skeptic's actions; the skeptic must both teach and practice arts.²² This is a surprising claim for those who think about the notion of *technē* in the Platonic sense as involving knowledge of the nature of the subject in a particular domain.²³ Given that the skeptic does not assent to such claims,

21 τοῖς φαινομένοις οὖν προσέχοντες κατὰ τὴν βιωτικὴν τήρησιν ἀδοξάστως βιοῦμεν (*PH* I 23). Sextus adds an explanation here, that the skeptics are not able to be altogether inactive (ἐπεὶ μὴ δυνάμεθα ἀνενέργητοι παντάπασιν εἶναι) which makes it clear that the criterion of action is meant – at least in part – to be a response to the *apraxia* objection(s) to skepticism. See also *PH* I 226. For a good overview of the *apraxia* objection and skeptical responses to it, see Vogt (2010). See also Striker (1980) and Thorsrud (2009, 36–58, 75–83).

22 One might object that the phrase τὸ δὲ ἐν διδασκαλίᾳ τεχνῶν does not necessarily indicate that the skeptic teaches or learns arts. The word διδασκαλία has a wide range of meanings and can refer to the activity of teaching, the method of teaching or the content of teaching. An alternative interpretation of Sextus' statement might suggest that the skeptic simply accepts the councils or instructions of experts who speak for their arts. When the doctor recommends an emetic, she takes one, no questions asked. That does not indicate that the skeptic herself actually learns an art. But Sextus goes on in *PH* I 24 to explain the observance “by teaching of arts according to which we are not inactive in the arts which we employ” (τεχνῶν δὲ διδασκαλίᾳ καθ' ἣν οὐκ ἀνενέργητοί ἐσμεν ἐν αἷς παραλαμβάνομεν τέχναις). The key question in this passage is how to take the verb παραλαμβάνομεν. It can have a general sense of 'accept' or 'receive', but it can also mean to 'use' or 'employ'. If we take it in the former sense, then Sextus is suggesting that there are some τέχναι that the skeptic accepts, implying that there could be others that she does not accept. This does not necessarily mean that the skeptic actually learned the art in question; it just means that the skeptic accepts the authority of some arts (and not others). But if παραλαμβάνομεν is taken in the sense of 'use' or 'employ', as I suggested above, then Sextus would be saying that the skeptic is active in those arts she employs, namely the ones she was taught. In addition to the textual point, we know that several Pyrrhonian skeptics worked as doctors (Diogenes Laertius mentions three empirical doctors in his list of Pyrrhonists, including Sextus. See *DL* IX 116) and given that medicine was widely considered a τέχνη, we should prefer the reading of *PH* I 24 that indicates that the skeptic teaches and learns different forms of expertise. Finally, Sextus speaks approvingly of several arts in *Against the Professors*, including medicine (*M* I 51), navigation (*M* I 51, V 2), farming (*M* V 2), and reading and writing (*M* I 49, 52).

23 *Gorgias* 464e2–465a7.

how are we to understand the notion of a skeptical art? And how did the skeptics approach teaching these arts?

Unfortunately, aside from telling us that the skeptic does accept a form of *technē* and some means of education, the description of the four-fold observance does little to clarify what exactly Sextus has in mind. He claims that the skeptics are not inactive in those *technai* which they accept (*PH* I 24), but he does not tell us what they are. The other observances are not much help. Sextus explains “nature's guidance” by saying that the skeptic can perceive and think, but he doesn't tell us anything about the content of their perceptions and thoughts. If we read these observances as addressing the *apraxia* objection, then, perhaps, Sextus has something like this in mind: The dogmatist says, for example, that the skeptic can never leave the room because she does not believe that the door is there, and so she will never try to walk through it. Or alternatively, how can she justify walking through the door given that she does not believe it is there? The skeptic can respond that she *sees* the door and she can think “the door seems to be there”; so that if she has an involuntary urge to leave the room (perhaps to get something to eat), she will walk through the door using the first two observances. Likewise, if she feels thirsty and she sees water in front of her, she will drink it without needing to assent to any belief – e.g. that the water will assuage her thirst – beyond the fact that this water here seems to be the thing to go for in light of her feeling of thirst. This may answer the *apraxia* objection, but it does little to clarify what Sextus could mean by the teaching of arts. Rather, it makes the whole passage more mysterious. In the ancient world, *technē* was often thought to require knowledge, so one might think that if anything required *belief*,

expertise certainly did.²⁴ Yet, Sextus ends the chapter about the criterion by (re)emphasizing that the skeptic is able to follow the observance pertaining to life in a way that avoids belief (*adoxastōs*).

Thus, one of the central questions related to the criteria of action is just what Sextus means by teaching arts and how the skeptic can claim to do this without belief. My brief introduction to the skeptical disposition has led us to this central question about the character of skeptical education and expertise. The approach that I suggest for answering these questions focuses on the work that Sextus dedicates to education and the arts, *Against the Professors* (M I-VI).

1.2. *Against the Professors* (M I-VI)

Sextus' six book attack on the *enkuklia mathēmata* (cyclical studies, cf. M I 7) has received less scholarly attention than his other treatises. There are, no doubt, several reasons for this, not least that it is the least overtly philosophical of his extant works. After the proem (M I 1-8), *Against the Professors* begins with a general attack on subjects of learning (*mathēmata*) – the arguments I mentioned earlier which appear in each of Sextus' works – and it continues with an attack on specific disciplines. The treatise has often been characterized as an attack on the traditional liberal arts because, on the face of it, each book seems to be dedicated to one of these arts (only logic or dialectic seems to

24 There are a variety of views about the nature of τέχνη among ancient Greek philosophers, but many of them view τέχνη as a form of knowledge or at least requiring knowledge.

be missing²⁵): grammar, rhetoric, geometry, arithmetic, astronomy and music.²⁶

Jonathan Barnes rightly notes that *Against the Professors* is a “single cohesive treatise.”²⁷ The proem sets out the plan of the work which Sextus follows throughout. Each book (with one exception) begins and ends with appropriate transitional remarks, making it clear that Sextus has concluded one subject and will begin the next (*M* I 320, II 1, 113, IV 1, 34, V 1, 106).²⁸ The final sentence of the work also indicates that Sextus has accomplished his project: “Since we have said substantively this much indeed against the principles of music, in this we complete our excursion against the subjects of learning” (*M* VI 68).²⁹ So the work is structured and well organized.

Dating *Against the Professors* precisely is impossible. We're not sure when (or

25 The omission of dialectic is often explained by noting that Sextus already attacked logic in his works on philosophy. However, this explanation is dissatisfying because Sextus repeats the same arguments and makes the same points in a number of different works. One would not expect him to forgo criticizing dialectic simply because he had done so before. See Barnes (1988, 56, 57); Hankinson (1995, 251); Blank (1998, 85); and Spinelli (2010, 249).

26 I am not suggesting that the canon of the liberal arts was in place in Sextus' time in the sense that it was understood in the Medieval period. However, modern scholars typically characterize *M* I–VI as Sextus' attack on the liberal arts. Barnes (1988) himself suggests that Sextus must have the seven disciplines in mind (56). Spinelli (2010) insists on calling *Against the Professors* an attack on the “liberal arts” although he suggests we should be cautious about concluding that Sextus is targeting anything like the “traditional liberal arts” (249–250). Benjamin Morison (2014) says that “The six books of *M* I–VI, taken together, constitute an attack on the liberal arts.” Bett (2013) says that the six disciplines are a “precursor to” the traditional liberal arts and that they “in some sense ... constitute a rounded curriculum as a group” (161). Ultimately, I will argue that Sextus cannot intend to attack a group of subjects that were part of a unified curriculum in his own culture, because, as we will see in chapter 4, he attacks a form of astrology which would not have been taught except in the most specialized of circumstances. This presents a problem for interpreters of *Against the Professors* because if the treatise is not an attack on the core curriculum of his day, then we need something else to explain why Sextus chooses these particular subjects to attack. I will suggest that we must look at what these subjects have in common to understand why Sextus thinks they are all worthy of criticism together.

27 Barnes (1988, 54).

28 As Barnes (1988) notes, Book III (*Against the Geometers*) is the only book that does not end with appropriate transitional remarks. This fact along with the brevity of Book IV (*Against the Arithmeticians*) may indicate that Books III and IV were originally one book (55). Barnes claims this is of no philosophical importance, but of course it may be important for the standpoint of the history of the status of the seven standard liberal arts.

29 Τοσαῦτα πραγματικῶς καὶ πρὸς τὰς τῆς μουσικῆς εἰπόντες ἀρχὰς ἐν τοσούτοις τὴν πρὸς τὰ μαθήματα διέξοδον ἀπαρτίζομεν (*M* VI 68). For other English translations of *M* VI, refer to Greaves (1986) and Bury (1949).

even where) Sextus lived although most scholars tend to date him around the end of the second or possibly into the third century.³⁰ Likewise, the paucity of internal cross references makes it difficult to place his works relative to one another. Yet, it is clear from a few references in *M* I-VI that the attack on the cyclical studies must have been written after both Sextus' "Skeptical Treatises" (*M* I 26-27, 29-30, VI 52)³¹ and his "Treatise against the Physicists" (*M* I 35, III 116)³² which are generally thought to refer to *M* VII-XI and *M* IX-X, respectively.³³ If this is the case, then *M* I-VI must be written after *M* VII-XI.³⁴ The dating of *PH* relative to these two works is a matter of ongoing scholarly controversy.³⁵ Karel Janáček has argued – primarily on the basis of a detailed stylistic analysis – that *PH* must have preceded the other two works.³⁶ Richard Bett, on the other

30 House (1980) argues for a late second century date although he admits that, given our evidence, Sextus could have lived any time between the mid first and early third centuries. Jouanna (2009) has recently argued for an mid-third century date mainly on the basis that Galen never mentions him when we ought to expect such a mention given how much detail Galen goes into about Empiricist and Methodist doctors.

31 The passage at *M* I 26-27 mentions Sextus' treatment of body (*soma*), which could refer to *PH* III 38-55 or *M* VII 359-440, given that these passage include some of the same arguments. The argument at *M* I 29, which deals with whether something taught is true or false, seems to appear at *PH* III 253. The citation at *M* VI 52 involves arguments against sound, which may refer to *M* VIII 131 (although Bury (1949) claims that "this is not the book referred to").

32 The passage at *M* I 35 talks about arguments against change and generation and corruption, which could refer to *PH* III 102-114 or possibly *M* X 310-350. *M* III 116 mentions arguments against subtraction, which could refer to *PH* III 85-93 or *M* X 280-320.

33 Barnes (1988, 55) thinks that *M* I 35 and III 116 clearly refer to *M* IX-X, but he does not think any other reference "unambiguously points either to *PH* or to *M* VII-XI" (55n4). See also, Hankinson (1995, 251); Spinelli (2010, 252, 253).

34 Of course, there is also the possibility that Sextus wrote and revised both works together in parallel rather than writing them each separately as complete works. However, this possibility seems doubtful given that Janáček's work seems to demonstrate significant stylistic differences between these works, something we would not expect if the works were written together (Thanks to Richard Bett for suggesting this to me).

35 Sextus also mentions his "Pyrrhonian Treatises" (*M* VI 58, 61) which may or may not be distinct from the "Skeptical Treatises". If it is distinct, then perhaps Sextus refers to both the *Outlines* and *M* VII-XI in *M* VI. The passage at *M* VI 58 refers to other arguments against sound. The passage at *M* VI 61 talks about arguments against time, which could refer to *PH* III 136-150 or *M* X 169-247. Bury (1949) claims that "Pyrrhonian Treatises" refers to a lost work.

36 Janáček (1972) claims, for example, that "If Sextus had written *PH* after *M*, he would be sure to have not removed e.g. ὠσαύτως and replaced it by ομοίως which stands for both of them in *PH*" (10). See also, Janáček (1948). It is worth noting, as Bett does, that in Janáček's earlier work, he appears to be

hand, has argued on the basis of his developmental picture of ancient skepticism that *PH* must be the latest work.³⁷ Without attempting to solve this puzzle here, we can at least conclude that *Against the Professors* was not Sextus' earliest work.³⁸ Whether it was his final work is open to debate.

Another point of scholarly controversy involves Sextus' attitude toward the conclusions argued in *Against the Professors*. Should we take Sextus' attack on the cyclical studies to be a rejection thereof? Or as in the case of Sextus' *Outlines*, are the refutations and the negative conclusions meant to be opposed to the positive arguments of the dogmatists in order to induce *epochē*? A close linguistic analysis of the text makes these questions particularly difficult. Karel Janáček records many cases where the skeptical phrases that Sextus uses in the *Outlines* seem missing or modified in *Against the Professors*. For example, the noun *epochē* only appears once in the work (*M* II 99) and then in the context of an anecdote.³⁹ Moreover, Sextus often ends a series of arguments by claiming that he has offered a refutation (*antirhēsis*) without indicating that these *logoi* should lead to the suspension of judgment (Janáček notes that the word *antirhēsis* appears 20 times in *M* I-VI as opposed to 14 times in Sextus' other extant

assuming that *PH* precedes *M*. Janáček (1948) says, "First I would like to state the programme of my future studies dealing with Sextus. There being no reason to doubt the truth of external evidence, according to which the chronological order of Sextus' works is *PH*, *M* VII-XI, *M* I-V, this procedure seems at first sight to be the most suitable" (8). As Bett points out, we have no external evidence about the order of Sextus' works if, by external evidence, Janáček means evidence apart from Sextus' works themselves. For Bett's criticism of Janáček thesis, see Bett (1997, 274–276).

37 Bett (1997, xix–xxxi). See also Bett's analysis of the parallel passages in *PH*, *M* XI and *M* I (as well as *DL* IX) in Bett (1997, 255–271).

38 In fact, we have evidence that Sextus wrote several works even before *M* VII-XI, none of which have survived. We are missing a medical treatise (or two) (*M* VII 202, I 61) as well as a work on the soul (*M* X 284, VI 55).

39 Janáček (1972, 87).

works combined).⁴⁰ In light of these and other observations, Janáček concludes that in *M* I-VI “the refutation of the mathematicians' doctrine is the end, not the means.”⁴¹ In other words, these linguistic variations lead him to claim that Sextus' attack on the *enkuklia mathēmata* is distinctively dogmatic.⁴²

In contrast to Janáček's view, the proem of *Against the Professors* outlines a clearly skeptical project albeit with some interesting dogmatic features. Sextus begins the work by noting that both Epicurus and the skeptics have attacked the general studies although they have done so in different ways. Apparently, Epicurus attacked the studies for not being helpful in attaining wisdom (*M* I 1). On the other hand, the Pyrrhonians have a different take on the general studies. Sextus says,

[5] But the Pyrrhonians do not attack the subjects of study because they (the subjects) do not contribute to wisdom, for that argument is dogmatic, nor because of the skeptics' lack of education, for in fact they have been educated and are more experienced than other philosophers, yet they hold a different attitude toward the opinion of the many.⁴³ [6] Nor do they have ill-will toward anyone (for this sort of evil is a long way from their gentleness). Rather, they have the sort of experience with the subjects of study that they had with the whole of philosophy.⁴⁴ For just as they came to philosophy wanting to obtain the truth, but when they

40 Janáček (1972, 43).

41 Janáček (1972, 42. cf. 87, 89, 133)

42 I examine several possible forms of negative dogmatism in chapter 2.

43 As far as I can tell, every modern editor has added <ἀ> to the διαφόρως in order to make sense of it, but I don't see why that is necessary. The Pellegrin (2002) edition claims that the change goes back to Bekker. The manuscripts read as I have translated here. Blank (1998) explains the emendation by saying that “Sextus does not use *diaphorōs* in this sense” and he references De Marco's 1956 article in Italian (81). Moreover, Blank adds that “the alternative, 'they behave differently...', seems empty.” On my view, the whole statement as written is meant to distinguish the skeptic's attitude toward education two poles: The attitude presented by philosophers like Epicurus, recounted just a few sections earlier, on the one hand, and the attitude of the many, on the other. Sextus is telling us that, unlike Epicurus, the skeptics are educated like the masses even though they differ from them with respect to popular opinion. What this difference is exactly, Sextus does not say. Incidentally, Blank translates the sentence as follows: “The Pyrrhonians, however, attacked the liberal studies neither because they contributed nothing to wisdom (since that is a dogmatic argument), nor because of their own lack of education—for in addition to being educated and more broadly experienced than the rest of the philosophers, they are also indifferent to the opinion of the masses...” (3, 4).

44 I follow Blank (1998) and Bury (1949) here reading πιλοσοφίας rather than Mau's σοφίας.

encountered an equally matched conflict and anomaly of things, they suspended judgment [*epeschon*]; in the same way too while they set out to acquire the subjects of study and sought even to learn the truth here, but when they discovered equally inescapable difficulties [*aporia*], they did not hide them. [7] Wherefore since we too follow the same persuasion [*agōgē*] as they do, we shall try without a contentious spirit to select and set out the substantive things said against them. (M I 5-7)⁴⁵

Sextus' description of the skeptical approach to the subjects of study lines up with his description of skepticism in the *Outlines*. He claims that Epicurus' position is incompatible with the skeptical approach because it is dogmatic (*dogmatikos gar ho logos*). Moreover, he describes the skeptics as both educated and virtuous; they are more experienced than other philosophers, and they hold no malice toward anyone given their gentleness. Instead, it is the *aporia* that they encountered in the course of pursuing the truth that caused them to raise questions about these subjects. Sextus intentionally associates himself with the skeptics saying that he too follows the same persuasion (*agōgē*).⁴⁶ This passage, at least, suggests that the author of *Against the Professors* maintains the same skeptical attitude described in the *Outlines of Pyrrhonism*.⁴⁷

45 [5] οἱ δὲ ἀπὸ Πύρρωνος οὔτε διὰ τὸ μηδὲν συνεργεῖν αὐτὰ πρὸς σοφίαν, δογματικὸς γὰρ ὁ λόγος, οὔτε διὰ τὴν προσοῦσαν αὐτοῖς ἀπαιδευσίαν· σὺν γὰρ τῷ πεπαιδεῦσθαι καὶ πολυπειροτέρους παρὰ τοὺς ἄλλους ὑπάρχειν φιλοσόφους ἔτι καὶ διαφόρως ἔχουσι πρὸς τὴν παρὰ τοῖς πολλοῖς δόξαν· [6] καὶ μὴν οὐδὲ δυσμενείας χάριν τῆς πρὸς τινος (μακρὰν γὰρ αὐτῶν τῆς πραότητός ἐστιν ἢ τοιαύτη κακία)· ἀλλὰ τοιοῦτόν τι ἐπὶ τῶν μαθημάτων παθόντες ὅποιον ἐφ' ὅλης ἔπαθον τῆς πιλοσοφίας. καθὰ γὰρ ἐπὶ ταύτην ἦλθον πόθῳ τοῦ τυχεῖν τῆς ἀληθείας, ἰσοσθενεῖ δὲ μάχῃ καὶ ἀνωμαλίᾳ τῶν πραγμάτων ὑπαντήσαντες ἐπέσχον, οὕτω καὶ ἐπὶ τῶν μαθημάτων ὀρμήσαντες ἐπὶ τὴν ἀνάληψιν αὐτῶν, ζητοῦντες καὶ τὸ ἐνταῦθα μαθεῖν ἀληθές, τὰς δὲ ἴσας εὐρόντες ἀπορίας, οὐκ ἀπεκρύψαντο. [7] διόπερ καὶ ἡμεῖς τὴν αὐτὴν τούτοις ἀγωγὴν μεταδιώκοντες πειρασόμεθα χωρὶς φιλονεικίας τὰ πραγματικῶς λεγόμενα πρὸς αὐτὰ ἐπιλεξάμενοι θεῖναι (M I 5-7).

46 Barnes (1988, 58) rightly points out that Bury's translation here is misleading. Bury translates "Accordingly, we too will pursue the same method [*ἀγωγή*] as they..." which suggests that Sextus contrasts his own philosophy with that of the Pyrrhonists. That is, he follows their method, but does not count himself among them. As Barnes says, "If Bury's translation is correct, then the passage is important; for it will show that in M I-VI Sextus does not regard himself as a Pyrrhonist." But of course, the translation of *ἀγωγή* is of crucial importance here. It is the term that Sextus uses to describe the skeptical "school" in the *Outlines* (PH I 17), so Sextus must be making the point that he is a Pyrrhonist.

47 Spinelli (2010, 256) claims that the proem is a lens through which we should interpret the whole work. I

Much more may be said about the role of dogmatic arguments in *Against the Professors*, and I intend to pursue this question in the next chapter. By way of introduction, let me say that I generally agree with Spinelli (2010): The dogmatic conclusions of the work do not indicate that Sextus rejects the subjects of learning nor that he believes they do not exist or are not useful for life. Rather Sextus presents the inescapable difficulties, which, when opposed to the positive account of these disciplines, leads to skeptical *epochē*.

This is not to say that there are no puzzles about what Sextus is doing in *Against the Professors*. Janáček has shown that Sextus' linguistic choices differ in this work compared with his other works; these differences may deserve an explanation, especially if they suggest the possibility of a substantive change in his skeptical outlook. Moreover, even though Sextus offers a skeptical motivation for this work, there are further questions to be asked when we consider what Sextus says about teaching in the *Outlines*. Earlier, I pointed out that Sextus says the skeptic learns arts (*PH* I 24), but here we see an entire treatise apparently devoted to demonstrating that six widely accepted arts and sciences do not exist. How are we to make sense of *M* I-VI in light of the things he says elsewhere?

1.3. Puzzles of Skeptical Education and Expertise

In *Against the Ethicists*, after Sextus concedes for dialectical purposes that the

agree with this claim, although I would add that the proem, on its own, cannot be decisive. After all, Sextus (or some other author) may have written the proem at a different time (and in a different mindset) than the rest of the work. However, as I will argue in the next chapter, there are good interpretative reasons for rejecting the view that has Sextus changing his mind between writing these two parts, so I maintain that, other things being equal, we should prefer the interpretation that understands the work as a unified whole.

“expertise for living” or *technē peri ton bion* exists, he claims he will *teach us* that it cannot be taught (*M* XI 216). Sextus thinks he is funny. Admittedly, his delivery could be better, but statements like this tend to raise humorless questions among commentators. When Sextus goes on to argue that learning itself “is nothing” (*M* XI 218, cf. *M* I 9, *PH* III 269), some readers might dismiss him and his arguments as self refuting nonsense in light of his earlier claim to teach. Similarly, Sextus claims that the skeptic can be active because, among other things, she is taught (and perhaps teaches) an expertise (*PH* I 24). But this is impossible if teaching does not exist (*PH* III 252).

The entire skeptical enterprise could be attacked on a similar basis. Consider the fact that Sextus defines skepticism as an ability (*dunamis*) (*PH* I 8). Now it seems the ability must either be innate or learned. It cannot be innate because then everyone would be a skeptic. Apparently, not everyone has the skill to oppose appearances and thoughts in order to make them equally weighted, so it must be learned. But again, Sextus argues that learning is nothing. Therefore, by *reductio*, no one is a skeptic. In other words, the skeptic cannot consistently claim that learning does not exist in light of the role that learning must play in the development of the skeptical capacity. If learning does not exist, then no one can be a skeptic (so the naive reader argues).⁴⁸

One need not read much Sextus to realize that the Pyrrhonian persuasion is not so easily dismissed. According to Sextus, the skeptic does not dogmatize. Rather, she argues on both sides of a position in order to make each side equally convincing so that she and perhaps her audience are led to suspension. When Sextus claims that he will teach us that

⁴⁸ This argument is obviously inspired by Sextus' own arguments against learning. cf. *PH* III 266-268.

there is no learning, he no doubt means that he will present the arguments that purport to demonstrate that learning does not exist. But that does not commit him to the claim that learning is nothing. He could equally marshal reasons to suppose that learning does exist – perhaps the apparent fact that he has just taught us something.

Yet, the critic of skepticism points to a real tension in Sextus' philosophy, that between Sextus' attack on learning on the one hand, and his insistence that the skeptic learns. This tension can be formulated in two distinct puzzles. The first puzzle – which I shall call the “Erudite Skeptic” problem – appears in the proem of Sextus' treatise *Against the Professors*. This problem has been largely ignored in favor of the questions I discussed above about the skeptical “scope” or “flavor” of the work as a whole. When Sextus contrasts the negative dogmatic approach that Epicurus takes toward the arts with the suspensive skeptical approach, he mocks Epicurus for his ignorance, saying that “he is not correct in common [linguistic] usages” (M I 1).⁴⁹ Sextus contrasts this with the erudition of the Pyrrhonists; he claims they are educated and more experienced than other philosophers (M I 5). We are left to wonder why the skeptics should waste their time becoming educated given that “they set out to acquire the subjects of study and sought even to learn the truth here, but when they discovered equally inescapable difficulties, they did not hide them” (M I 6,7).⁵⁰ Perhaps we might explain this passage by saying that the older skeptics needed to learn these subjects in order to discover that the puzzles existed. This explanation would not imply that skeptics of Sextus' generation took these

49 οὐδὲ ἐν ταῖς κοιναῖς ὁμιλίαις καθαρεύων. (M I 1,2)

50 ...ἐπὶ τῶν μαθημάτων ὀρμήσαντες ἐπὶ τὴν ἀνάληψιν αὐτῶν, ζητοῦντες καὶ τὸ ἐνταῦθα μαθεῖν ἀληθές, τὰς δὲ ἴσας εὐρόντες ἀπορίας, οὐκ ἀπεκρύψαντο. (M I 6, 7)

subjects seriously. But that does not explain Sextus' disparagement of Epicurus' ignorance. Sextus clearly values – in some sense – erudition in the realm of the arts. So the question then is why does Sextus value learning these subjects while he simultaneously attacks them. Or perhaps formulated in another way, what kind of learning would Sextus advocate in light of his attack on the arts?

Just to be clear, I am not suggesting that Sextus is here engaged in a 'performative contradiction' if that means that he performs an activity that he affirms is 'nothing'. It is true that Sextus argues that learning does not exist while also indicating that the skeptic both teaches and learns. But if the skeptic suspends judgment about the question, she is not denying the existence of the activity she is engaged in. Rather, she investigates whether or not it exists even while she busies herself with learning.

Still, the dogmatist might think this a rather disingenuous attitude; and this brings us to the second puzzle. Why should we think that the skeptic takes learning seriously given that she is not even sure it exists? Psychologically, it seems that there must be a split here; on the one hand, the skeptic happily studies, learning her lessons, submitting to exams, receiving her marks, while on the other hand – perhaps even at the same time - she questions whether what she is doing exists. As Tad Brennan puts it,

When Sextus sometimes talks as though he does lead an ordinary life, this view concludes that he can only be referring to the superficialities of observable behavior. A life so different from our own on the inside, seems only more horrible if it mirrors our lives on the outside; a kind of masquerade or mimicry, but a mimicry of oneself, a sort of holding of oneself at arm's length.⁵¹

51 Brennan (2000, 64). Burnyeat (1980) thinks this kind of psychological split is the root of the skeptic's problems. Annas (1986) also makes a similar charge regarding the skeptical approach to ethics; see especially section III of her essay (pp. 17-29).

Brennan rejects this reading for several reasons, but it is not clear that it can be easily dismissed when it comes to Sextus' attack on education and expertise. The notion that learning exists is not a philosophical dogma, but a tenet of common sense belief. So an attack on education is not an attack on philosophical dogma unless the attack is focused on a particular philosophical theory of education. Sextus obviously has some specific philosophical theories about education in mind when he attacks learning (e.g. the Stoics at *M I* 20-30), but it is question begging to assume that the skeptic would not raise general doubts about learning (i.e. doubts directed at no particular philosophical school or other). It seems that any answer to the question "What is learning?" would be open to a skeptical attack. Even a non-committal "Well, at the very least, I know something now that I didn't know before" is open to objections about change and becoming (*PH III* 102-114; cf. *M X* 37-168). Note that it is Sextus' implicit commitment to the teaching of *technai* as one of the fourfold observances which constitute the criterion of action that makes this charge more acute than other charges of being disingenuous.⁵² As such, I will call this the "Teaching Expertise" puzzle.⁵³

In this section, I have dismissed a couple of pseudo-problems that the naive reader might raise against the skeptics in regard to learning. But I have also clarified some real

52 Annas' charge about ethics is structurally the same and thus equally sharp because Sextus affirms that the skeptic is guided by norms, such as piety is good and impiety is bad (*PH I* 24), even while she suspends judgment about the existence of such norms (*PH III* 169-238). See Annas (1986, 20-23).

53 The "Teaching Expertise" problem can be formulated more generally in this way. The skeptic engages in activity A while simultaneously questioning whether A exists. How does the skeptic approach activity A? There are obviously a number of possibilities. Perhaps the skeptic psychologically separates doing activity A with the activity of questioning A. While she does A, she does not question A and vice versa. Or perhaps the skeptic engages in A with a sense of quizzical non-commitment like someone who faithfully reads her horoscope even while she would insist that she cannot be sure whether to take any stock in the stars or not. The criticism of disingenuousness charges that every one of these approaches is one that involves some type of psychological split or lack of commitment on the part of the skeptic.

questions. The first – the Erudite Skeptic puzzle – appears in the proem of *Against the Professors*. There, Sextus claims that the skeptics pursue (and perhaps value) education, experience, and culture, even though he intends to embark on a six book attack on various arts, indicating that they do not exist. This leads to the second problem; the Teaching Expertise puzzle is best expressed as a split in the skeptic's attitude toward learning (and teaching) a *technē*. On the one hand, Sextus attacks education, arguing that neither learning nor teaching exists, in order to generate an equally weighted account against the contrary position so that he suspends judgment on these questions. On the other hand, he claims that teaching of the arts is one of the observances that constitutes the appearances for the skeptics and thus operates as a criterion by which the skeptic acts. So Sextus *acts* as if he accepts that teaching exists, but when asked whether he assents to this claim, he shrugs his shoulders and says he cannot be sure. Can we make sense of Sextus' double-minded view of teaching the arts? Both puzzles demand an answer, and both are essential to understanding the character of skeptical expertise. In the next section, I will briefly canvas some responses that previous scholars have offered to explain these puzzles; and I will suggest that none of these attempts can fully answer them.

1.4. Unsatisfying Solutions to the Skeptical Education Puzzles

The easiest way to deal with puzzles in Sextus Empiricus, and in Pyrrhonism in general, is to declare them incoherent. Any difficulties must be due to an oversight on Sextus' part, demonstrating his philosophical failings. But aside from being the most

uninteresting reading of Sextus, this type of interpretation runs the risk of ignoring what is philosophically interesting about skepticism. We should try harder to understand the texts, rather than simply dismissing them.

In general, scholars have attempted to solve the puzzles surrounding *Against the Professors* and skeptical expertise in two ways, which I will call, the developmental picture and the therapeutic picture. Each interpretation has its merits; however, neither of these interpretations can adequately answer both the Erudite Skeptic and the Teaching Expertise puzzles. The developmental solution focuses on one problem while ignoring the other, while the therapeutic picture collapses both problems into a single puzzle, but does little to solve it. Thus they are inadequate as interpretations of skeptical education and expertise.

Janáček advocates the developmental picture. On his view, Sextus wrote *PH* first, followed by *M VII-XI* and finally, *M I-VI*.⁵⁴ Janáček thinks that Sextus changed and developed from the skeptical disposition of *PH* to a negative dogmatic position expressed in *M I-VI*.⁵⁵ Unfortunately, this version of the developmental picture cannot account for either of the problems raised above. Regarding the Erudite Skeptic puzzle, Janáček needs to explain how the skeptical character of *M I 5-7* can be understood in light of Sextus' attack on the cyclical studies. Why does the skeptic pursue education while simultaneously attacking the arts as non-existent? Janáček answers that the prologue to the work should not be considered essential to it, suggesting that perhaps it was written at

⁵⁴ Janáček (1948, 48).

⁵⁵ As I already noted, Janáček (1972, 42) claims that “in *M I-VI* the refutation of the mathematicians' doctrine is the end, not the means...”

some point earlier than the rest while Sextus was still under the influence of skepticism.⁵⁶

In addition, Janáček claims that *M I 5-7* should not be considered significant in light of the linguistic character of the rest of the work. He affirms “the non-sceptical character of *M I-VI*”⁵⁷ on linguistic grounds; this conclusion demands that he seclude the genuinely skeptical preface, treating it as an aberration. As he says, “The chief reason for my separating *M I-VI* from *PH* and *M VII-XI* remains....The facts prevail over the formulations of *M I 6-7*.”⁵⁸ In other words, Janáček suggests that Sextus began *Against the Professors* from a genuinely skeptical point of view, but as his outlook changed toward negative dogmatism, the character of the text shifted.

This amounts to solving the Erudite Skeptic problem by offering a non-solution. The problem, according to Janáček, is the result of a philosophical discontinuity on Sextus' part. He began the work in a skeptical mood, but wrote most of it as a negative dogmatist. It is really an editorial problem – Sextus did not bother to go back to the beginning of the work and fix the introduction in light of a change in his philosophical approach. This is a dissatisfying reading of *Against the Professors* for several reasons. It suggests that Sextus did not understand what he was writing. If there was a change in Sextus' view as he wrote the work, we would expect one of two things; either the change should gradually occur throughout the work (suggesting the Sextus did not notice the shift in his point of view) or we would expect a hard break in his approach. Janáček favors the hard break (he places it at *M I 40*). But if there was a hard break, we would

56 Janáček (1972, 133) says, “The introduction *M I 1-40*, which I have always considered as extraneous matter in *M I-VI*, might perhaps indicate that the original intention was sceptical.”

57 Janáček (1972, 87). He also speaks of the “special character” of *M I-VI* on pages 71, 79, and 89.

58 Janáček (1972, 133). Moreover, he notes that some of the language of *M I-VI* is reminiscent of the skeptical disposition, but suggests that it should not be read this way (cf. 79, 86)

expect Sextus to notice it and flag it for his reader. There is no indication Sextus thought that his project had changed between the proem and M VI. So, we are left to conclude that Sextus didn't notice that his philosophical position had changed. Alternatively, if Sextus knew what he was doing, why could he not be bothered to re-write the first forty paragraphs in light of his new outlook? If he began the work as a skeptic, but took up the writing again at M I 41 as a negative dogmatist, why not start the introduction over? This interpretation seems all the more implausible when we consider that Janáček believes the *Outlines* was written first, so Sextus should have been well aware of the philosophical distinction between the skepticism and negative dogmatism which begins the *Outlines*. If he later shifts to become a negative dogmatist, why would he not make any note of it?

In addition to having a unsatisfying answer to the Erudite Skeptic problem, Janáček's developmental thesis cannot answer (nor is it meant to answer) the Teaching Expertise problem. While Janáček's developmental thesis might suggest that the skeptical disposition was ultimately unstable, falling into dogmatism of some sort or another, it cannot explain what Sextus thought about education and expertise in his more skeptical mood.

In contrast to Janáček, Richard Bett – who advocates a different developmental thesis – argues for the following order of Sextus works: *M VII-XI*, *M I-VI*, *PH*.⁵⁹ Bett bases his chronology of Sextus' *oeuvre* primarily on how Sextus' skepticism relates to the positions of earlier skeptics, as well as on changes in that skepticism as it developed from *M VII-XI* to *PH* through *M I-VI*. Bett claims that

59 Bett (1997, x, xi).

The similarity between the position adopted in *M XI* and views which appear to have been held by Aenesidemus is one of several reasons for thinking that *M XI* (and presumably the entire work of which it forms a part) was composed before *PH*.⁶⁰

In other words, Sextus began his philosophical life as an Aenesidemean, taking an “aporetic” approach to philosophy; but over time, his position changed. On Bett's view, this development was a transition from negative dogmatism to a mature skeptical outlook as represented by the “pure” suspensive disposition found in *PH*.⁶¹

Unfortunately, this developmental picture also fails to make sense of the Erudite Skeptic puzzle. Bett has argued that *M I-VI* stands as a transitional treatise between the negative dogmatism of Sextus' earlier works and the skepticism of his later *Outlines*, and that, as such, it does not take a coherent stand. That is, there are real strands of distinct and conflicting skeptical views in *Against the Professors*. Like Janáček, he claims that the majority of the work expresses a type of negative dogmatism; but unlike Janáček, he thinks that the prologue expresses a genuine point in Sextus' move toward suspensive skepticism rather than simply an aberration. Bett has explained the dual nature of the work – describing it as a “*schizophrénie*” - by positing a kind of authorial discontinuity.⁶²

In general, the developmental picture claims that the text is incoherent in some

⁶⁰ Bett (1997, xxiv).

⁶¹ The interpretation of Aenesidemean skepticism as a form of negative dogmatism is obviously itself contentious. Bett argues for this interpretation of Aenesidemus, in part, on the basis of the summary from Photius. Bett (1997) claims that “Like Sextus in *M XI*, Aenesidemus is represented [by Photius] as arguing for negative existential conclusions, not as promoting suspension of judgment about the existences or the nature of things under discussion” (xx). Bett refers to Woodruff (1988) as support for the interpretation of Aenesidemus as an aporetic Pyrrhonist. Note that I plan to discuss the question of whether Sextus was a negative dogmatist in this sense more thoroughly in the next chapter.

⁶² Bett (2006). I should emphasize that in a later work, Bett (2013) argues that there are possible explanations for the apparent inconsistency in *Against the Professors*, which avoid charging Sextus with writing an inconsistent work; so when I describe Bett's developmental interpretation, I am referring to his earlier view and not necessarily his current one.

way and attempts to explain this putative fact by appealing to Sextus' development. I plan to discuss the question of the coherence of *Against the Professors* in detail in the next chapter. For now, it is sufficient to say that a developmental picture on its own cannot explain an incoherence in a text. Such an explanation requires the additional suggestion that Sextus was too sloppy or ignorant to notice the incoherence, or else too lazy to bother fixing it when he did notice. Sextus no doubt has his faults; he often offers us confused and sophistical arguments.⁶³ But I believe we should prefer an interpretation of the text that can make sense of it as a coherent whole if at all possible. As I noted above, *Against the Professors* has signs of being a well planned and organized work, and I hope that my analysis of the treatise will go some way toward demonstrating that these signs are not misleading.

In his commentary on *Against the Ethicists*, Bett also suggests a possible solution to the Teaching Expertise problem by distinguishing between theoretical and practical knowledge. He says,

One might try to draw the requisite distinction as follows: the kind of teaching which is impossible is the imparting of bodies of theoretical knowledge, such as the dogmatists claim to possess, whereas the kind of teaching which is possible is the inculcation of abilities, or systematic sets of activities, through supervised practice.⁶⁴

Bett goes on to remind us that Sextus describes skepticism as an ability (*PH* I 8) and that he seems to favor those medical schools that view medicine as a set of treatments to be applied rather than a set of doctrines to be learned.⁶⁵ This distinction might solve the

63 In his commentary on *Against the Ethicists*, Bett (1997) notes a number of times where he thinks Sextus is confused or simply offering a bad argument (See e.g. 136, 148, 149, 168, 188, 228).

64 Bett (1997, 227).

65 On this topic, see Frede (1988), Frede (1990), and Allen (2010).

Teaching Expertise problem because it suggests that the skeptic should not be seen as engaging in activities that she fundamentally questions; rather, the skeptic questions one form of teaching (i.e. the transmission of doctrines) while accepting another form (i.e. the inculcation of abilities). In other words, the arguments against teaching are essentially *ad hominem* attacks that destroy the dogmatic conception of teaching, but do not thereby touch the skeptical approach to education and expertise. This is an interesting suggestion, one that I think deserves more exploration, although Richard Bett ultimately rejects it.⁶⁶

To sum up, the developmental picture fails to explain the Erudite Skeptic puzzle, and instead dismisses it as an error on Sextus' part. Moreover, the development picture does not offer any help in answering the Teaching Expertise question although Bett gives a possible explanation that the character of skeptical expertise is essentially a “know-how”, that is, an ability acquired through practice rather than a set of doctrines to be understood and applied.

Jonathan Barnes, who first characterized the attack on the cyclical studies as “schizophrenic”, offers a therapeutic solution to our puzzles in his interpretation of *M* I-VI. On the one hand, Sextus distinguishes between useful arts (like farming or navigation) and useless arts (like grammar or rhetoric), and he attacks the useless ones as not truly being *technai*. On the other hand, Sextus argues that teaching and learning is not possible and that there are no *technai* at all. If this is true, there cannot even be useful

⁶⁶ Bett (1997) claims that the proposal will not help to explain the uses of the term “teach” in *M* XI (i.e. at 111 and 140) because these uses clearly have a propositional content. Rather, he suggests that Sextus' claims to teach in *M* XI are simply incoherent (227). Bett doesn't mention here whether he thinks the skeptic's education in the arts would also have propositional content although it certainly seems reasonable to suppose that it would.

technai.⁶⁷ The explanation for this schizophrenia, according to Barnes, is found in Sextus' argumentative sources. As I have already mentioned, Sextus admits in the proem that he is drawing on both Epicurean and Pyrrhonian sources. Moreover, in several places, the charge of uselessness clearly stems from a dogmatic, sometimes explicitly Epicurean source (*M* I 296-299, VI 4, 27). Thus, Barnes suggests that the two voices in the treatise represent the Epicurean vs. the Pyrrhonian strain. The question then becomes why did Sextus produce this carefully constructed work in such a way that it contains these incompatible voices. Barnes' answer appeals to the end of *PH* where Sextus reveals that the Pyrrhonist sees herself as a philosophical therapist (*PH* III 281). The arguments are there to treat the rashness of the dogmatists, and different arguments will cure different folks. Barnes sees *M* I-VI as a well organized argumentative pharmacy, stocked and arranged in such a way as to aid the treatment.⁶⁸

While Barnes does not explicitly address the Erudite Skeptic problem, his solution to the question about the character of *Against the Professors* obviously has some bearing on that puzzle as well. For if the attack on the arts is meant as a storehouse for arguments against dogmatic rashness, then the treatise functions in exactly the same way that *PH* II and III or *M* VII-XI operate. These books are a storehouse of arguments with which one might dose oneself (or others) at the slightest trace of dogmatic symptoms. None of the arguments are meant to indicate anything about the Pyrrhonian disposition.⁶⁹ Similarly, we should not look at the argumentative sections of *M* I-VI as indicative of the skeptical

⁶⁷ Barnes (1988, 72-74).

⁶⁸ Barnes (1988, 76-77).

⁶⁹ Bett (1997) rejects this interpretation for *M* XI in his introduction (ix-xxxiv).

philosophy; they are simply meant to induce *epochē*. If this is the case, then the Erudite Skeptic problem becomes a question about why the skeptic insists on studying a subject – music theory, for instance – that she does not believe exists (She also does not believe it doesn't exist). But this simply reduces the question to the Teaching Expertise puzzle.

Barnes' approach takes us from two puzzles down to one, but it does not yet solve that puzzle. To solve the Teaching Expertise problem, Barnes offers a distinction similar to that of Bett discussed above. Barnes distinguishes between two types of teaching (*didaskalia*): formal and informal. Formal teaching is the sort of teaching that Sextus attacks; it involves the transmission of knowledge from a teacher to a learner where that knowledge is expressed primarily as a set of interrelated principles about the nature of the domain in question. Informal teaching is the inculcation of a skill in the student through the oversight of the master.⁷⁰ On this view, Sextus rejects formal teaching, but does not attack informal teaching.⁷¹ Barnes also ties this contrast to medical therapy; the different schools of ancient medicine go some way to answering the Teaching Expertise problem as well. Given that Sextus seems to have been a physician associated with the Empirical school of medicine, it looks like we have a clear example of a form of expertise that was taught and practiced by skeptics. So while we may not have a completely general account of skeptical expertise, we do have a clear example that can shed light on that question.⁷²

⁷⁰ Barnes (1988, 61).

⁷¹ Barnes offers a similar interpretation in his earlier “The Beliefs of a Pyrrhonist” (1982), suggesting that skeptically acceptable “teaching of arts” involves the inculcation of skills and know-how, rather than the transmission of facts and instilling of beliefs (14). In that context, Barnes is mainly concerned to show that what Sextus says about teaching the arts is compatible with his so-called “rustic skeptic” interpretation. Of course, he is right about this although that fact does not show that Sextus is a rustic skeptic.

⁷² See Allen (2010) for more on this topic.

Still, we have some reason to doubt Barnes' interpretation of *M* I-VI. In particular, it depends upon distinguishing (at least in principle) between discrete Epicurean and Pyrrhonian sources. While it is true that Sextus himself says that he will be drawing upon both, it is difficult to say in every case, what counts as Epicurean and what Pyrrhonian. Sometimes Sextus tells us that the arguments are “rather dogmatic” (*M* VI 4) whereas other arguments are “more aporetic” (*M* VI 5) and it is easy enough to tell which source is which. But other times, Sextus does not differentiate between arguments in this way and we are left guessing.⁷³ Moreover, it requires a further inference to claim that Sextus is somehow more committed to the arguments of one group than to those of the other group. If the skeptical *dunamis* is the ability to argue on either side of a given question, *every* argument is a skeptical argument in the sense that the skeptic may be willing to use it to create an equally weighted situation. No one *owns* arguments. The labels 'dogmatic' and 'aporetic' do not pick out Sextus' purposes in using the arguments, but rather structural features of the argument.⁷⁴ The original intent matters little to Sextus, who uses the arguments for his own purposes. So we should not dismiss Sextus' discussion of utility in *M* I-VI, for example, simply because Epicureans also attack certain *technai* for a lack of utility.⁷⁵

Moreover, we can learn something about Sextan skepticism by looking at his attacks on dogmatism. It would be misleading to claim that Sextus never speaks in his own voice in *PH* II-III or *M* VII-XI. We've already seen, for example, that *PH* II 10 is

⁷³ On the other hand, there has been some interesting work done in recent years on the ways in which Sextus seems to draw on Epicurean sources. See Delattre (2006), and Bett (2013).

⁷⁴ In the next chapter, I plan to discuss this point further.

⁷⁵ In my final chapter, I argue that Sextus thinks *technē* is useful. Of course, what exactly the skeptics mean by “useful” is difficult to specify.

important for determining the scope of skepticism. Likewise, Sextus reminds his readers about the skeptical disposition at *M* XI 111 before examining the question of whether it is possible to live happily if one thinks anything is good or bad by nature. In other words, Sextus tells us something about his skepticism even while presenting his arguments.

Finally, while Barnes' therapeutic solution may explain why Sextus would collect arguments that have incompatible conclusions into a single work, it does little to explain why Sextus would write this work in particular. Why has Sextus engaged in the project of attacking the arts at all? Barnes' therapeutic solution can explain any Pyrrhonian text that collects arguments on a single topic from diverse sources. But it does not explain why the author has selected these particular arguments on this particular subject matter. So it does not explain what Sextus thinks he is doing in *Against the Professors*.

I have presented two main types of solutions to the puzzles about skeptical education and expertise, the developmental solution and the therapeutic solution. In terms of understanding *Against the Professors* as a coherent text, the therapeutic solution is clearly superior to the existing developmental theories. But I think the therapeutic interpretation ignores the resources that *M* I-VI offers toward answering these questions. I propose that we should take seriously the things that Sextus says about learning and the arts in *M* I-VI, and in the next section I will provide a sketch that outlines my solution.

1.5. Piecing Together Puzzles

I have suggested that, in light of the programmatic statement in the proem, we should take Sextus at his word: *Against the Professors* is written with a skeptical attitude

similar to that presented in the first book of the *Outlines*. The proem also tells us the author's purpose of the work – to set out the arguments against the arts in light of the *aporia* discovered by the skeptics (M I 7). But this purpose does not answer the questions posed above.

We will understand *Against the Professors* better if we think of it, not as a pharmacy stocked with different argument potions for different dogmatic sicknesses, but rather as a particular kind of cultural critique. In a cultural critique, an author seeks to shed light on problems that she sees in some common institution or assumption or practice in the culture. The goals of a cultural critique can be various, but in general the author seeks to change the reader's mind or attitude toward the object or to incite the reader to some action.

If we view Sextus' attack on the cyclical studies as a cultural critique, it not only makes sense of several of the puzzles mentioned above, but also gives us reasons to look closely at *Against the Professors* for answers to our more fundamental questions about the character of skeptical expertise. The work is obviously a cultural critique in that it seeks to change the reader's mind about institutions prevalent in the skeptic's society. Sextus states in the proem that he wants to present the inescapable difficulties that the skeptics have found in the arts. He does not mean for the reader to conclude that e.g. grammar does not exist; that would be a dogmatic conclusion. But he does mean to present arguments to oppose the reader's reasons for thinking that grammar exists in order to induce skeptical *epochē*. And on the assumption that the reader is a dogmatist, this suspension of judgment would represent a change of mind; the reader is meant to move

from a dogmatic position regarding the subjects of study to a position of uncertainty. So *M I-VI* is a cultural critique insofar as it seeks to change the reader's mind on the subject of certain common disciplines.

What is it that unifies these disciplines? Ultimately, I will suggest that Sextus attacks these subjects in particular because their professors and advocates are “invasive dogmatists.” All dogmatists assent to unclear matters investigated in the sciences, according to Sextus (*PH I* 13). An “invasive dogmatist” insists that those who do not study and grasp the principles of a certain dogmatic study can never achieve the happy life. The invasive dogmatist attempts to create anxiety and fear in (potential) students in order to motivate them to pursue the discipline in question. I will argue that Sextus attacks the subjects he does in *Against the Professors* because he thinks that the professors in question are fear-mongers. Thus, part of the purpose of Sextus' critique is to help eliminate worries, such as, that failure to become an expert in e.g. epic poetry will ruin your life.

More can be said about the treatise's role as a critique if we think about the skeptic's need for a criterion of action. We know that the criterion of action allows the skeptic to be active insofar as she follows the four-fold observance, which Sextus equates with the *phainomena*. What role do Sextus' skeptical treatises play in presenting appearances to other skeptics or potential skeptics? Although Sextus does not address this question, we might speculate that the skeptic can generate appearances that move others to action. The skeptic is able to express her thoughts, and such expressions – if they are part of the public discourse – could, in turn, operate as motivating appearances for

someone else.⁷⁶ Given that education, as a public institution, involves a practical sphere of influence, it is open to question and change through critique. This is painfully obvious to those of us at all familiar with the current battles over curriculum, funding, and testing that rage on in our modern political arena. If an influential political leader or state regent becomes convinced that a subject is useless nonsense, it can spell trouble for that department or specialization. Sextus' own critique of particular disciplines is meant to do exactly this; he means to change the educational landscape by calling into question certain types of expertise. If he can cause his readership to suspend judgment on the existence – or at least the utility – of say music theory, then the readers are likely to have an appearance such that music theory does not seem so important for their children to study. Sextus makes it clear that he is not attacking every subject of study; kids should obviously learn to read and write (*M I 49*). Rather, he attacks those subjects which seem so invasively dogmatic, or so I shall argue.

My view of *Against the Professors* as a cultural critique points the way toward

76 The fact that the skeptic herself can generate appearances for others through her writing could also be used to address the criticism leveled at Sextus by modern scholars which says that Sextus' ethical life is a superficial and unreflective one. Annas (1986) claims that the ordinary observances are not really norms at all. She says, "Why *should* the sceptic follow the moral intuitions he finds natural because he has been brought up in them? The answer has to be: there is no *should* about it" (20). Annas then goes on to deny that the skeptic leads an ordinary life, calling ancient moral skepticism "profoundly subversive of everyday life" (22). Annas seems to have a point when we ask what appearance the skeptic will follow when faced with a genuine ethical dilemma where the cultural norms do not give any clear answer. To suggest that the skeptic just follows the appearances seems at odds with our ordinary ethical experience, which includes such dilemmas. Given that the ordinary norms will not provide the answer, and given that the skeptic does not have any beliefs about what is really good or bad, it looks like she will not have the resources to come up with a genuinely ethical solution. Thorsrud (2003) articulates the problem in terms of the skeptic's (in)ability to make moral progress if she were born and raised in a morally depraved society (247-248). While I cannot give a full answer to this problem (although such an answer should include the point that the skeptic is able to think so long as those thoughts come from what is apparent), I think the skeptic could genuinely work to change such a society by writing or speaking against the depravity. In other words, insofar as the skeptic participates in a public discussion of norms, those norms may be subjected to question and, thus, change.

answers for our questions. Regarding the Erudite Skeptic puzzle, there are at least two roles that education plays for the skeptic. First, some education is simply useful; we get around better in the world if we know how to read and write. Second, education aids the skeptic in her investigation as she continues looking into the things to be said for and against various positions. That is, investigation is required to yield arguments that may be used to achieve *epochē* and ultimately *ataraxia* for herself and others. In this way, Barnes is right to appeal to the end of the *Outlines* where Sextus explains his philanthropic character in therapeutic terms (*PH* III 280).⁷⁷ But the arguments may also influence others and how they see the world. Perhaps the skeptic's philanthropy does not extend only to ridding others of their beliefs, but to changing society in light of this suspension. The ill that Sextus seeks to cure festers in schools that breed little budding dogmatists. So the Erudite Skeptic puzzle is a puzzle only if we assume that the skeptic studies dogmatic *technai* or dogmatic philosophy for their own sake. Instead, the skeptic studies these in order to become a better skeptic and to free others from a dogmatic fever.

Likewise, we have the beginning of an answer to the Teaching Expertise problem. Both Barnes and Bett are right to note that the puzzle goes away if we observe that certain *technai* are acceptable to the skeptic. The difficulty is in characterizing the distinction between an acceptable and an unacceptable form of expertise. And while an analysis of the differences among the schools of ancient medicine goes some way toward answering this question, *Against the Professors* is an obvious resource as well. In this treatise, Sextus regularly distinguishes between the arts that he finds acceptable and those

⁷⁷ Barnes (1988, 76, 77).

he does not. More needs to be done to understand what this distinction is and how it fits into the larger Pyrrhonian philosophy.

1.6. Overview of the Project

In order to fill in the answers sketched in the previous section, I intend to examine the question “What is Sextus' view of expertise in *Against the Professors*?” Following this introduction, chapter 2 will focus on the presuppositions of my central question. This includes a closer look at some of the issues that have already arisen, especially, whether we should view *Against the Professors* as incoherent. In order to answer this question, I develop a typology of negative dogmatism and then argue that Sextus does not display any of these types, using his discussion in *M VI (Against the Musicians)* as a test case. I also discuss in more detail the question of the scope of skepticism and in what sense Sextus might be said to have a “view”. The result of this discussion will yield some guidelines for interpreting Sextus' use of dogmatic sources and his view on expertise in *M I-VI*. These hermeneutical guidelines will be used in the remaining chapters.

The third chapter will look at the role of hypothesis in ancient science for grounding knowledge. In particular, *M III (Against the Geometers)* begins with an attack on hypothesis as a starting point for attaining further knowledge. In a sense, there is nothing surprising about the claim that the skeptics were not foundationalists (in their view of science or anything else). The more interesting question is *why* they were not. To explain this, I offer a new interpretation of the five modes (sometimes called the modes of Agrippa). On my view, the five modes are a practical guidebook; they provide the

skeptic with possible dialectical moves to make in the course of an argument or an investigation (whether with a dogmatist or on her own, it matters not). Contrary to the traditional interpretation of the modes, this means that the skeptics did not reject hypothesis as a starting point for investigation for the reason that arguments based on hypothesis are groundless or unjustified. Instead, the practice of being a skeptic precludes an axiomatic foundation for science because the skeptic is always looking at and questioning the support for such posits. No hypotheses are ever settled as far as the skeptic is concerned. We see this practice in *M* III as Sextus argues against the definitions of point, line and plane.

Modern science has made a similar move away from axiomatizing theories, but in a way distinct from the skeptical approach. I end the third chapter by exploring ways in which we might compare skeptical science to modern science. Both approaches to science reject the foundational approach, in part because empirical observation always under-determines the theoretical constraints such that multiple incompatible theories can adequately account for the phenomena. Skeptical expertise is even distinct from contemporary anti-realist approaches to science, insofar as the anti-realist seeks to understand the phenomena even if he does not commit himself to the existence of theoretical entities. The skeptical science is not interested in understanding the phenomena or explaining it. This raises the question of what constitutes the content of skeptical science, if it does not aim to explain the reality that underlies the phenomena.

The fourth chapter attempts to answer this question by focusing on Sextus' attack on astrology in *M* V (*Against the Astrologers*). Although lexically the ancient Greeks did

not always differentiate between the empirical study of the heavens and the prediction of the future on the basis of the position of the stars and planets, Sextus makes it clear that he does distinguish these as distinct disciplines. Moreover, he indicates that he accepts the former while rejecting a form of the latter. Given what we know about the teaching of astronomy in the ancient schools during Hellenistic and Roman times, it appears that Sextus accepts empirical astronomy as a legitimate subject of learning. This is an important result because it shows that *Against the Professors* is not simply an attack on the liberal arts (if that means the general subjects taught at the secondary level). In addition, the differences between empirical astronomy and the Chaldean astrology that Sextus rejects provides us with the basis for drawing a distinction between acceptable and unacceptable expertise. Hankinson has argued convincingly that the ancient belief in astrology was reasonable,⁷⁸ and it is not difficult to see why Sextus' attack on astrology might be unconvincing. But I show that his attack on astrology is tacitly based on his understanding of predictive semiotics. Drawing on the distinction that Sextus makes elsewhere between acceptable commemorative signs and unacceptable indicative signs (*PH* II 97-103; *M* VII 141-160), I show that Sextus' critique of astrology amounts to the claim that the so-called astrological signs are not really signs of either type. As such, astrology does not meet the requirements of a dogmatic or skeptical science. This gives us the material to sketch out the basis of an adequate skeptical expertise as one that is constituted by a collection of commemorative signs that have been established empirically through repeated observations and allow the skeptic to predict future

⁷⁸ Hankinson (1988).

occurrences for some purpose.

I conclude this work by considering what purpose the skeptic's science serves. Sextus appears to accept those *technai* he considers useful, but this just raises the obvious question, what is useful? Useful for whom and in what context? The concept of the useful is normative; it assumes a *telos* to be accomplished. But Sextus – in other contexts – eschews norms. How should we understand the skeptical notion of utility? In the final chapter, I will examine this question, focusing in particular on part of *M I* (*Against the Grammarians*). There, we see that Sextus accepts *technai* which contribute to the skeptical end – *ataraxia* – as well as those which contribute to the skeptical enterprise itself. I claim that the skeptic accepts forms of expertise that contribute to some proximate end without being committed to there being any ultimate end. In this way, the skeptic is, pragmatically speaking, a normative relativist although this characterization should not be foisted on Sextus himself, as if he had some theory about the nature of normativity.

In light of this discussion, I hope to provide a satisfying answer to the central question about the notion of a skeptical expertise. As I noted earlier, throughout his attack on the general studies, Sextus mentions acceptable forms of expertise (cf. *M I* 49, V 1-2, VI 1-3). I offer the following characteristics of skeptical *technai*: First, they are constituted by a collection of commemorative signs. This means that the objects of these *technai* are limited to observable domains; that is, the subject can in some sense be observed. Points cannot be observed, nor can the will of the gods (in the stars). But stars can be observed and their movements tracked across the sky. These signs are established

through repeated observation of the co-incidence of sign and signified. But the signs themselves are always open to revision in the face of further experience. Second, a skeptical form of expertise must be non-axiomatic. As an empirical science, it never attempts to ground the domain in first principles. Even more than that, the purpose of the science is neither explanatory nor in any other way epistemic. Finally, the skeptical expertise is normative, but strictly in a relativistic sense. That normativity is tied to relative utility rather than truth. The expertise that is accepted is not some grand solution, but achieves what is relevant in a given context. Thus, learning to read and write Greek is useful for living in Greek society, but also useful for being a skeptic.

In the end, I argue that *Against the Professors* is a coherent work and that in spite of the many voices that other scholars have observed, it is written by an author who accepts a certain class of *technai* as action guiding. If we look at the work in this light, the puzzles can be answered. This is not attack on learning by someone who claims to value learning. Rather, it is an erudite cultural critique by one who is skeptical of much that goes on in the ancient academic setting. Presumably, this is a project that modern philosophers can understand – even if they might not agree with Sextus' implicit assumptions – as it characterizes a central feature of the philosophical disposition from at least the time of Socrates.

Chapter 2: Diagnosing Sextus in *Against the Professors* (M I-VI)

The question “What is Sextus' view on expertise in *Against the Professors*?” presupposes at least two claims beyond suggesting that Sextus has such a view. First, it presupposes that a skeptic like Sextus can have a view about anything at all; and second, it presupposes that *Against the Professors* is a coherent treatise in which a consistent view is expressed. In this chapter, I address these two presuppositions.

As I already mentioned, a number of scholars have raised doubts about the coherence of *Against the Professors*.⁷⁹ I begin the chapter by developing the strongest available case for the incoherence thesis, that we cannot make sense of the treatise (or Sextus' position in the treatise) as a result of inconsistencies apparent in the text. I will proceed to argue against this thesis, defending Sextus from the charge of incoherence. As part of this defense, I will examine the question of whether *Against the Professors* expresses a negative dogmatic position. Negative dogmatism – a view that denies the existence of an object *o* or the truth of claim *p* for some class of *o*'s or *p*'s – is one way in which Pyrrhonists are sometimes said to hold an (albeit negative) view; but I do not think that *Against the Professors* takes the negatively dogmatic line. In what other way could Sextus be said to have a view? Admittedly, this question is difficult to answer if we take seriously his claim to be *adoxastos*. Even if we remember that Sextus allows the skeptic beliefs in a restricted sense (cf. *Outlines of Pyrrhonism* [=PH] I 13), the nature and scope of Pyrrhonian belief is not entirely clear. All the same, I will end the chapter by

⁷⁹ For example, Janáček (1972), Barnes (1988) and Bett (2006).

suggesting that, although we cannot attribute a theory of *technē* to Sextus in *Against the Professors*, he does express a view about expertise. My method for determining Sextus' view involves distinguishing his own statements about *technē* from those of others that he presents and seeking to understand them in a way that coheres with his presentation of Pyrrhonism elsewhere (esp. *PH* Book I). In this way, we can grasp what might reasonably be called Sextus' view on expertise.

2.1. Psychosis in *M I-VI*? The Case for Incoherence

Jonathan Barnes and Richard Bett have described the apparent incoherence of *Against the Professors* as “schizophrenia”;⁸⁰ Sextus seems to be of two minds in more ways than one. Barnes locates one aspect of this split in Sextus' attitude toward the types of arguments that he presents in the treatise. Roughly, there appear to be two general types of objections Sextus levels at the *mathēmata* (subjects of study) that he attacks in *M I-VI*; we might call these “arguments from utility” on the one hand, and “arguments for non-existence” on the other. At best, Sextus seems ambivalent about the value of the arguments from utility; at worst, he is confused. The other way in which Sextus seems to be of two minds involves his attitude toward all of the arguments in the treatise. At times, he seems to endorse the conclusions of the arguments he offers; at other times, he seems to engage in the skeptical practice of presenting oppositions in order to induce *epochē*. I will make the case for each “schizophrenia” in turn.

Both the arguments from utility and those for non-existence appear throughout

⁸⁰ Barnes (1988); and Bett (2006).

Against the Professors. For example, in *Against the Rhetoricians* (*M* II), Sextus says that “if rhetoric is at all a form of expertise, either it will be useful for the one who has it or it will be useful for cities“ (*M* II 26).⁸¹ He then presents arguments which he attributes to the Academy that purport to show that rhetoric is neither useful for the possessor nor for the city (*M* II 27-43). Later, he offers a different type of argument “from the essential matter” (*ek tēs hulēs peri hēn esti*) of rhetoric in order to establish “its non-existence” (*M* II 48).⁸² In other words, at times, Sextus attacks a subject because it is useless, while at others, he attacks its definition (or “essence”) in order to establish that it does not exist or has no reality. The fact that Sextus uses these two types of argument against the *mathēmata* does not make the treatise incoherent even if it might seem odd to argue that subject of study is useless when you intend to argue that it does not exist. Obviously, it cannot be useful if it doesn't exist. However, as Richard Bett points out, the arguments from utility may be seen as a species of the more general attacks on the existence of the subject as a craft (*technē*). The arguments against rhetoric cited above clearly depend on the common notion that a *technē* is essentially useful.⁸³ If rhetoric is useless, then it cannot be a *technē*; that is, it cannot exist as a *technē*. Insofar as the educational system seeks to transmit *useful* forms of expertise to its students, arguments from utility

81 εἰ τέχνη πάντως ἐστὶν ἡ ῥητορικὴ, ἥτοι τῷ ἔχοντι ἢ ταῖς πόλεσιν ἔσται χρειώδης ὡς καὶ αἱ λοιπαὶ τῶν τεχνῶν (*M* II 26). For other translations of *M* II, refer to Bury (1949), and Pellegrin (2002).

82 τὸ δὲ μετὰ τοῦτο καὶ ἐκ τῆς ὕλης περὶ ἣν ἐστὶ σκοπῶμεν αὐτῆς τὸ ἀνυπόστατον. (*M* II 48).

83 Bett (2006) says, “The blurring of the distinction between these two types of arguments, in the specific case of *technai*, is facilitated by the widespread assumption that *technai*, as such, must be useful. A definition of *technē* that derived originally from the Stoics, but was eventually accepted much more widely, was ‘a system made up of apprehensions organized together and directed towards some end useful in life’” (21, the translation of Bett’s French article comes from the English manuscript that he kindly provided me, although the page numbers refer to the published French version). Note that I argue in chapter 5 that Sextus implicitly accepts the view that *technai* are useful, but this does not mean that he is committed to arguments the purport to show that this or that *technē* is useless.

essentially are arguments against the existence of the subjects in question.⁸⁴

The problem is not that Sextus uses different types of arguments to attack the *mathēmata*; rather it lies in Sextus' apparent *attitude* toward these argument types. As we saw in the previous chapter, Sextus explicitly contrasts the anti-educational arguments of Epicurus with those of the Pyrrhonists when he gives his purpose for writing in the proem of *Against the Professors*. There, he says that Epicurus attacked his former teacher Nausiphanes because “he was a bad man who also practiced the sorts of things by which it is not possible to come to wisdom” (*M I 4*);⁸⁵ Sextus goes on to say that – in contrast to Epicurus – Pyrrhonists do not attack a subject for not contributing to the pursuit of wisdom; he calls such arguments (*logoi*) dogmatic (*M I 5*). So, in the proem, Sextus appears to distance himself from arguments that are based on the usefulness of the subject by associating them with the dogmatic Epicureans. This appearance is reinforced in Book VI (*Against the Musicians*) where Sextus contrasts the arguments which he calls “rather dogmatic” (*dogmatikōteron*) with those he terms “more aporetic” (*aporētikōteron*). The former arguments claim that “music is not a necessary subject to study for happiness [*eudaimonia*]” (*M VI 4*)⁸⁶ while the latter argue “by shaking the fundamental suppositions of the musicians” in order that “the whole of music be destroyed” (*M VI 5*).⁸⁷ Several scholars have suggested that the more dogmatic arguments are largely Epicurean in origin on the basis of the apparent parallels between the dogmatic section of *Against the*

84 On this point, Bett cites Blank (1998, lii–liv).

85 καὶ γὰρ πονηρὸς ἄνθρωπος ἦν καὶ ἐπιτετηδευκῶς τοιαῦτα ἐξ ὧν οὐ δυνατόν εἰς σοφίαν ἐλθεῖν (*M I 4*).

86 οἱ μὲν οὖν δογματικώτερον ἐπεχείρησαν διδάσκειν ὅτι οὐκ ἀναγκαῖόν ἐστι μάθημα πρὸς εὐδαιμονίαν μουσική... (*M VI 4*).

87 οἱ δὲ ἀπορητικώτερον πάσης ἀποστάντες τῆς τοιαύτης ἀντιρρήσεως ἐν τῷ σαλεύειν τὰς ἀρχικὰς ὑποθέσεις τῶν μουσικῶν ᾤκησαν καὶ τὴν ὅλην ἀνηρῆσθαι μουσικὴν (*M VI 5*).

Musicians and the Epicurean Philodemus' Concerning Music.⁸⁸ Thus, we see that although Sextus records the arguments from utility, he does not take ownership of the arguments himself, calling them dogmatic – a typical way that Sextus distances himself from a position.⁸⁹

On the other hand, Sextus associates himself with the Pyrrhonian arguments, noting in the proem that “wherefore since we too follow the same approach (*agōgē*) as these [Pyrrhonists] do, we shall try without a contentious spirit to select and set out the substantive things said against [the subjects of study]” (*M I 7*).⁹⁰ Given this connection and the fact that Sextus claims in his *Outlines* that the skeptics are called aporetic (*PH I 7*), we should not be surprised that Sextus associates himself more with the “aporetic” arguments in *Against the Musicians*. According to Bett, that is exactly what we find at *M VI 38*, where Sextus endorses the aporetic arguments that follow. Sextus introduces them, saying they involve a *pragmatikōteras... zētēseōs*. Some English translators have rendered this phrase “a more practical inquiry”,⁹¹ but the practical nature of the inquiry cannot be at issue since the arguments that Sextus offers concern the existence of sound and time as necessary conditions for the existence of notes and rhythm respectively. Bett suggests that the phrase *pragmatikōteras... zētēseōs* should be translated “a more effective inquiry” because the arguments that follow it are better suited for “destroying” the subject at hand.⁹²

88 See for example, Greaves (1986), Gigante (1990), D. Delattre (2006), and Bett (2013).

89 Bett (2006, 23) notes several other places where Sextus distances himself from the arguments from utility (*M I 299*, *M II 72*). cf. Bett (2013, 164–165).

90 διόπερ καὶ ἡμεῖς τὴν αὐτὴν τούτοις ἀγωγὴν μεταδιώκοντες πειρασόμεθα χωρὶς φιλονεικίας τὰ πραγματικῶς λεγόμενα πρὸς αὐτὰ ἐπιλεξάμενοι θεῖναι. (*M I 7*).

91 Thus, Greaves (1986). Bury (1949) reads “...an inquiry of a more practical nature.”

92 Bett (2006, 22–24). In his translation, Bett suggests we follow Blank (1998) who translates “...τὰ

Although Sextus distances himself from the dogmatic Epicurean arguments and associates himself with the “more effective” Pyrrhonian arguments, there are places in the text where Sextus appears to endorse arguments from utility, especially in his attack on the grammarians (*M I*). For example, Sextus divides the art of grammar in two: the first involves simply reading and writing, while the second involves an examination of the nature of letters, parts of speech and other matters of this sort. Sextus says that “it is not appropriate now to argue against the former, for everyone agrees it is useful, among whom one must also set down Epicurus even if he seems to hate the professors” (*M I* 49).⁹³ Sextus claims that *everyone* agrees reading and writing is useful, presumably including even himself (This statement cannot be attributed to Epicurus, since Sextus explicitly names Epicurus in the passage). So Sextus appeals to utility to justify the exclusion of reading and writing from his targeted attack which implies that he considers usefulness a relevant basis upon which to distinguish subjects that deserve to be studied from those that do not.⁹⁴

We have seen that Sextus uses a variety of arguments to attack the subjects of traditional education, and these arguments can be grouped broadly into two types, arguments from utility and arguments from non-existence. But Sextus seems to be of two

πραγματικῶς λεγόμενα...” at *M I* 7 as “the effective arguments”. In his later work, Bett (2013, 163) largely reaffirms this position. I discuss the translation of πραγματικῶς further in §2.3.

93 πρόκειται νῦν ἀντιλέγειν οὐ τῇ προτέρᾳ· συμφώνως γὰρ κατὰ πάντας ἐστὶ χρεώδης, ἐν οἷς θετέον καὶ τὸν Ἐπίκουρον, εἰ καὶ δοκεῖ τοῖς ἀπὸ τῶν μαθημάτων διεχθραίνειν· (*M I* 49).

94 I examine the passage *M I* 49 more thoroughly in chapter 5. Bett (2006) also cites *M I* 171-172, 319-320, *II* 26-43, 49, *V* 47. See also Bett (2013, 165). I agree that the selections from *Against the Grammarians* do indeed give the impression that Sextus endorses arguments from utility. But the selections from the other books do not, contrary to Bett's claims. For example, at *M II* 43, Sextus explicitly attributes the preceding arguments to the Academy. Likewise, in *Against the Astrologers*, Sextus attributes the argument from utility to others when he transitions to further arguments associated with the Pyrrhonists (cf. *M V* 49).

minds regarding these argument types. Sometimes he seems to endorse the arguments from non-existence and distance himself from arguments based on utility. Other times, he affirms usefulness as a criterion for determining whether a subject should be studied. The inconsistency here is not in Sextus' arguments, but in his *attitude* toward his arguments. This makes it difficult to interpret his own view – if he has one – regarding his subject matter because we as readers cannot be sure how to take his comments regarding his own argumentation. For example, when he describes how he plans to disprove the astrologers (*M V* 49), we cannot be sure if he believes the arguments to be effective or if he means them to be balanced against the Chaldean's own arguments in order to cause him (and perhaps his readers) to suspend judgment.

Against the Professors contains a second, more philosophically interesting, inconsistency related to Sextus' skepticism. When Sextus defines skepticism as an ability (*dunamis*) in his *Outlines of Pyrrhonism*, he says that this ability enables the skeptic to bring equally weighted accounts on either side of a conflict such that she cannot be swayed in favor of either side. The result is a suspension of judgment (*epochē*) regarding any question that the skeptic investigates (*PH I* 8-10). We've already seen that Sextus clearly invokes this understanding of the skeptical way of life in the proem of *Against the Professors* (*M I* 6). He goes on to affirm that he too follows this way of life (*M I* 7). This, then, looks like a clear statement of skeptical intent consistent with the *Outlines*; and, in light of the preamble, we should expect that Sextus would flag his suspensive attitude throughout the text as he does in the *Outlines*. But this is not what we find. On the contrary, Sextus never mentions *epochē* again in any skeptical context in the rest of the

work. There is no indication in the treatise that Sextus intends for his audience to suspend judgment regarding the disciplines he is attacking, nor does he give any indication of suspending judgment himself. In addition, he regularly prefaces arguments or sums them up by saying that he will (or has) destroyed the subject matter in question (e.g. *M* I 40, IV 1, VI 5). This contributes to the appearance that Sextus endorses the conclusions of many arguments throughout the text. Since the conclusions of *Against the Professors* involve the denial of various arts' existence, the treatise has given some scholars the impression that Sextus here expresses a negative dogmatic view.⁹⁵ Of course, arguments for the non-existence of a subject of study could be balanced with positive arguments from the dogmatists. But there is little or no indication in the text that this is Sextus' real purpose in presenting the arguments. He does not present equally weighted arguments on both sides of the question such that he or his reader must suspend judgment on the question of the existence of a given discipline. He primarily argues against their existence, and he makes several claims which indicate that he thinks his arguments are successful. This leads Bett to conclude:

So the claim of some commentators, that the negative arguments of *M* 1-6 are intended to be juxtaposed with other, positive arguments, with a view to the suspension of judgment ... is hard to reconcile with the manner in which many of those arguments are presented. It is true that this is Sextus' announced intention at the beginning of the work; but much of the time, at least, it does not seem to be borne out by the tone of the main body of the work, where it often seems as if Sextus wishes the conclusions of his negative arguments to be accepted.⁹⁶

⁹⁵ Bett (2006, 24) notes that the impression of “negative dogmatism” has been discussed by Desbordes (1990, 167–168) and Janáček (1972).

⁹⁶ Bett (2006, 28). As I mentioned in the previous chapter, Bett offers an historical explanation to make sense of this inconsistency. He suggests that Sextus creates this conflict because he uses argumentative material that originated in an earlier phase of Pyrrhonism, one incompatible with his own skepticism as it is expressed in Book 1 of the *Outlines*. As I also mentioned, in a more recent paper, Bett (2013, 167–168) concedes that Sextus could still have suspension of judgment in mind in *Against the Professors*,

In other words, Sextus appears to argue from a negatively dogmatic perspective contrary to his preliminary remarks in the proem. This inconsistency is the reason that Karel Janáček considered *M I* 1-40 to be “extraneous matter in *M I-VI*.”⁹⁷ Janáček concludes that the majority of the treatise is meant to be refutational on the basis of the language that Sextus uses and on the basis of the terms – like *epochē* – that he leaves out.⁹⁸

In this section, I have identified two apparent inconsistencies that scholars find in *Against the Professors*. The first involves the inconsistent way in which Sextus presents considerations for or against the usefulness of a subject. At times, Sextus distances himself from (or outright rejects) arguments against the usefulness of a subject, calling them dogmatic. At other times, Sextus appeals to utility as a legitimate criterion with which to distinguish a subject as acceptable (or not). The second problem involves the character of Sextus' skepticism. Sextus introduces his treatise by echoing the skeptical disposition outlined in *PH*; the skeptic has the ability to oppose arguments and appearances to each other in such a way that they appear to be equally weighted, with the result that the skeptic suspends judgment. But much of *Against the Professors* belies this preface; Sextus instead takes a negatively dogmatic position, denying the existence of the various subjects he attacks.⁹⁹

and that the treatise need not be judged inconsistent as a result.

97 Janáček (1972, 133).

98 Janáček (1972) points to the centrality of *antirrēsis* [refutation] (43) and the lack of *epochē* (88, 89).

99 One might object that these two problems are not about consistency so much as an indication that Sextus fails to live up to his own skeptical standards. It is true that neither of these problems involve Sextus holding an inconsistent view. Rather, they involve Sextus' endorsing or not endorsing the conclusions of particular arguments, which I've described as an inconsistent attitude. One possible explanation for this is that Sextus simply fails to practice what he preaches, so to speak; perhaps he wants to produce *epochē* by opposing arguments and appearances to one another, but sometimes he simply does not or cannot create the equal weight necessary to do so. While this may be a possible explanation, it seems unlikely given the largely one-sided character of Sextus' arguments in *Against the*

The arguments that I have laid out in this section present a problem for the whole of my project. If we cannot make sense of Sextus' attitude and his express view in *Against the Professors*, then there is no hope for answering any question about what constitutes a skeptical expertise. One might reasonably conclude that there simply is no coherent answer to this question on the basis of what Sextus says in *M I-VI*. In light of this objection, I will now defend Sextus against these charges of inconsistency. In general, a case for coherence is much more difficult to establish than a case for incoherence. Even if I refute the case for incoherence given above, that does not in itself establish the overall coherence of *Against the Professors*; it may be incoherent for other reasons. In a sense, I intend this entire work to build a case for the coherence of Sextus' treatise. As such, the purpose of the next few sections is simply to address the problems that I raised above. If I can defend Sextus against the strongest charge of incoherence, I hope that it will go some way toward establishing the coherence of *M I-VI*. I will deal with inconsistencies presented above in reverse order, beginning with the issue of negative dogmatism and then addressing the question of Sextus' attitude toward his arguments.

2.2. A Skeptical Diagnostic: Varieties of Negative Dogmatism

Sextus makes it clear at the opening of his *Outlines* that the skeptic is not what scholars have termed a negative dogmatist. He says that “For people who investigate some subject, either discovery is likely to follow, or denial of discovery and admission of

Professors. It is certainly not uncommon for philosophers to fail to live up to their own expressed norms, but it would be surprising for someone to do so explicitly in a large-scale work.

inapprehensibility [*akatalēpsia*], or persistence in investigation” (*PH I 1*).¹⁰⁰ Sextus locates the admission of inapprehensibility in the Academy in contrast to the Pyrrhonists who continue to investigate. The position that denies that anything can be grasped is obviously a dogmatic position, and the Pyrrhonian skeptic rejects this approach as such.

Negative dogmatism as a philosophical position does not refer to the affirmation of *any* negative claim.¹⁰¹ Rather the negative dogmatist denies an entire set of propositions within a given domain. In fact, what is often called skepticism in contemporary philosophy is usually a form of negative dogmatism. For example, one variety of scientific anti-realism denies the existence of the micro-particles that our best scientific theories posit to explain the phenomena. Such a view thereby expresses a negatively dogmatic position because it denies both the existence of micro-particles and the truth of all of the associated claims that one might make about them.¹⁰²

It is important to distinguish between different forms of negative dogmatism because the term is used ambiguously by interpreters of Sextus. I find it helpful to distinguish forms of negative dogmatism along two dimensions. Along the first, we should differentiate existential and modal forms of negative dogmatism. An existential negative (not- \exists) dogmatist denies the existence of some class of objects. A modal

100 Τοῖς ζητοῦσι τι πράγμα ἢ εὗρεσιν ἐπακολουθεῖν εἰκὸς ἢ ἄρνησιν εὐρέσεως καὶ ἀκαταληψίας ὁμολογίαν ἢ ἐπιμονὴν ζητήσεως (*PH I 1*).

101For example, a Cartesian who asserts that the mind is not material is not thereby a negative dogmatist.

102One should not make the mistake of thinking that positive and negative dogmatism are merely two sides of the same coin. This may be true in some cases; for example, physicalism can be described as dogmatic insofar as it claims that only physical things exist, and it can be described as a negatively dogmatic about the existence of non-physical substances. But one can be a negative dogmatist without holding any contrary positive view. Woodruff (1988) points out that the Socrates of the early Platonic dialogues often concludes that all available answers to some τι ἐστὶ question are wrong, and as such, he does not have any positive view.

negative dogmatist denies some modal claim (or set of claims). We can distinguish between strong and weak forms of modal negative dogmatism: Strong modal negative (not- \Diamond) dogmatism denies the possibility of some proposition or state of affairs, whereas the weak form (not- \Box) denies the necessity of some proposition or state of affairs.¹⁰³ Of course, not- \Diamond dogmatism about some proposition p will entail not- \exists dogmatism about p (as well as not- \Box dogmatism about p). For example, if it is impossible to achieve knowledge, then clearly no one knows anything.

Along the second dimension, we can distinguish negative dogmatisms by their objects or the scope of their attack. Modern “skeptics” often make broad attacks. So a Cartesian style “skeptic” might deny the possibility of any knowledge, while a more modest negative dogmatic position may only deny the existence of knowledge of a certain more limited class (say, knowledge of the existence of other minds).

These two dimensions can be filled out in a variety of ways. The Cartesian “skeptic”, as a not- \Diamond dogmatist about knowledge, argues, not only that we do not know anything, but that we cannot know anything.¹⁰⁴ Perhaps an externalist reliabilist skeptic might grant that knowledge is possible if we had some utterly reliable way of getting it, but she might then argue that the methods we *actually* have are simply not reliable

¹⁰³Note that I use possibility and necessity to stand in for a whole host of correlative modal notions here. For example, a strong deontological negative dogmatist would deny that it is permissible to ϕ (for some class of actions ϕ); and a weak deontological negative dogmatist would deny that we have an obligation to ϕ .

¹⁰⁴Although Sextus places Epicurus among the positive dogmatists in *PH* I 1, I would suggest that Epicurus held some strong modal negative dogmatic views. In particular, Sextus makes it clear in *M* I 1 that Epicurus thought the education system – specifically the subjects of study (*mathēmata*) – were useless for achieving wisdom. We might claim that Epicurus was a not- \Diamond dogmatist about the classical education system. It does not appear that Epicurus claimed that no subject of study could help one achieve wisdom; he seems to have made the more modest claim that these very subjects were useless. That is, it is not possible to achieve happiness by means of these subjects.

enough to give us knowledge. Such a person would be a not- \exists dogmatism about our knowledge because she thinks we do not have knowledge, but she does not rule out the possibility of such knowledge in principle.¹⁰⁵ Weak modal negative dogmatism is quite common in raising skeptical doubts within a domain: If it is possible that we are now being deceived by an evil demon (i.e. it is not necessary that we are not being so deceived), perhaps we should worry about the extent of our knowledge in general.¹⁰⁶

Returning to the opening of Sextus' *Outlines*, we can see now that Sextus is talking about not- \diamond dogmatism regarding *katalēpsis*. He says that some of the people who investigate may conclude that it is impossible for the subject matter to be apprehended [*katalēphthēnai*]. He fails to specify the scope of the subject matter in question, but he says that the Academic skeptics fall into this camp. When he discusses the Academy later in Book I, Sextus says that “those from the new Academy, if they indeed say that *all things* are inapprehensible [*akatalēpta*], differ from the skeptics perhaps even according to that very saying that all things are inapprehensible” (*PH* I 226 – my emphasis).¹⁰⁷ Thus, at the beginning of the *Outlines*, Sextus distinguishes his skepticism from a strong modal negative dogmatism about all *katalēpsis*. The Pyrrhonian skeptic does not assent to

105Indeed, one could be a not- \exists dogmatist about many things in the metaphysical domain. For example, an atheist is minimally a not- \exists dogmatist about God or divine beings although again, an atheist might very well argue for not- \exists dogmatism on the basis of a stronger not- \diamond dogmatism. So, for example, Mackie (1955).

106I have found Hankinson's (1995) account of negative dogmatism helpful (see pp. 13-18). He distinguishes between ontological negative (O) dogmatism and epistemological negative (E) dogmatism. I take it that his negative O-dogmatist is a not- \exists dogmatist about ontological matters while his negative E-dogmatist is a not- \diamond dogmatist about knowledge. While I think his account is fine as far as it goes, it cannot account for the way that Woodruff and Bett talk about negative dogmatism in Sextus and Aenesidemus which is why I think our vocabulary for the possible forms of negative dogmatism needs bolstering.

107 Οἱ δὲ ἀπὸ τῆς νέας Ἀκαδημίας, εἰ καὶ ἀκατάληπτα εἶναι πάντα φασί, διαφέρουσι τῶν σκεπτικῶν ἴσως μὲν καὶ κατ' αὐτὸ τὸ λέγειν πάντα εἶναι ἀκατάληπτα (*PH* I 226).

this claim, that it is impossible to apprehend anything at all, nor to the more modest claim that the matter that she is currently investigating is inapprehensible.

In contrast to this picture of negative dogmatism, Sextus emphasizes over and over again that the Pyrrhonian skeptic will suspend judgment because the skeptic has the ability to argue on either side; and she will point out conflicting appearances and raise arguments in opposition to any position (*PH* I 8-10). She is so skilled at doing this that the weight of evidence on each side of a given position will always seem balanced, so she will be unable to assent to either one. Since the skeptic can do this for every position, the result will be a general suspension of judgment. That is, the skeptic suspends judgment in every domain (*PH* I 31).¹⁰⁸

Given this brief contrast of the skeptical attitude with the various forms of negative dogmatism, one might be surprised, upon reading Sextus, to find many arguments that appear to imply not- \exists or not- \diamond dogmatism. For example, Sextus offers several arguments for the conclusion that bodies are inapprehensible [*akatalēpton*] (*PH* III 38, 46) and even that bodies do not exist (*PH* III 48).¹⁰⁹ But he follows these claims by saying, “So since, for these [reasons], we oppose the arguments against body to the appearance that body exists, we are brought to the suspension of judgment concerning body” (*PH* III 49).¹¹⁰ Sextus often explicitly spells out his intention in this way: His arguments which appear to advocate a negative dogmatic position are meant to be

¹⁰⁸As Hankinson (1995) points out, the Pyrrhonian will be an ontological *and* an epistemological skeptic (16).

¹⁰⁹μηδὲν εἶναι τὸ σῶμα (*PH* III 48).

¹¹⁰διὰ ταῦτα οὖν ἡμεῖς ἀντιτιθέντες τοὺς κατὰ τοῦ σώματος λόγους τῷ φαίνεσθαι [δοκεῖν] ὑπάρχον τὸ σῶμα, συνάγομεν τὴν περὶ τοῦ σώματος ἐποχήν (*PH* III 49).

opposed to appearances or to other arguments on the other side of that position.¹¹¹ That is, the apparently negative dogmatic arguments are just one facet of the expression of the skeptical ability that Sextus sketches at the beginning of his *Outlines*.

In other parts of the *Outlines*, Sextus does not mention an opposition on the other side of the question, nor does he explicitly advocate the suspension of judgment. For example, in Book III, Sextus expounds the Pyrrhonian commonplace that nothing is taught (*PH* III 253, cf. *M* XI 219, *M* I 10); he repeatedly says that nothing is taught (*PH* III 253, 254, 255, 258). In this context, he never once suggests that something may be taught, nor does he conclude that we ought to suspend judgment about teaching. This may look like a clear case of negative dogmatism, but for two facts. First, Sextus tells us in several other passages that he will teach us (the reader) something, which presumably shows that it appears to him that teaching exists (*M* XI 216, *M* V 52, *M* VI 6); second and more importantly, Sextus consistently repeats in the *Outlines of Pyrrhonism* that the skeptic suspends judgment in each case; so – in order for Sextus to be consistent – we should presume that Sextus means the arguments against teaching to be opposed to other positive arguments or appearances which support the existence of teaching. That is to say, sometimes Sextus argues only for a negative dogmatic conclusion, but such arguments are not meant as a presentation of his own position. Rather they are just one

¹¹¹Often the contrast seems to be between the appearances *for* the existence and the arguments *against*, for example, in the sections concerning increase and decrease (*PH* III 82-84), or time (*PH* III 136). In these cases, Sextus thinks it sufficient to note e.g. that time appears to exist before opposing to this various arguments against the existence of time. But Sextus also presents arguments that argue on either side of a position. So for example, Sextus offers arguments both for (*PH* III 17-19) and against (*PH* III 20-28) the existence and conceivability of causes. He then concludes that he has no basis by which to prefer one set of arguments to the other and that he must suspend judgment about the existence of causes (*PH* III 29).

side of the larger project of opposing argument to argument, appearance to appearance and argument to appearance (*PH* I 9, 31).¹¹²

This picture of Sextan skepticism has been complicated by several scholars who have noticed infelicities in Sextus (or important differences between what Sextus says and what other ancient authors report about Pyrrhonism); and they have posited a development of Pyrrhonian skepticism to explain those infelicities. Paul Woodruff and Richard Bett have argued that Pyrrhonian skepticism developed from an earlier negative dogmatic form of skepticism to Sextus' more mature formulation in the *Outlines*. In Woodruff's seminal "Aporetic Pyrrhonism", he argues that the earlier skepticism of Aenesidemus was "aporetic" in contrast to Sextus' own "purgative" skepticism.¹¹³ On Woodruff's view, aporetic skepticism primarily seeks to refute or deny the claims of dogmatic philosophy.¹¹⁴ The aporetic skeptic suspends belief regarding a question in the

112Hankinson (1995, 268–272) makes this point. Bett (2013, 167–168) also discusses it. Perhaps someone might worry that I am begging the question here, since I am arguing for the consistency of *Against the Professors*, but I seem simply to assume the consistency of Sextus' *Outlines*. But, I do not think it an imposition on the principle of charity to suggest that Sextus need not say in the context of *every* argument that he is not supplying both sides of dispute even though he recognizes that both are needed in order to create the equally weighted balance. In other words, there are reasonable explanations that provide us with a consistent interpretation, and, all things being equal, we should prefer a consistent interpretation to the non-consistent if it is available.

113Woodruff (1988, 162). In Woodruff's later (2010) paper on the Modes, he calls the purgative skepticism "ephetic" or "suspensive".

114Woodruff (1988) claims that Sextus uses the term ἀπορία and its cognates unambiguously to mean refutation: "An *aporia* in Sextus' usage is always a refutation that issues in the denial of a dogmatic belief; usually, it is a refutation that blocks every way of defending a dogmatic thesis" (141). However, in some cases, Sextus' usage is not so clear. In the proem of *Against the Professors*, Sextus claims that skeptics, when they investigated philosophical questions, were faced with equally weighted conflicts and anomalies of things [ἰσοσθενεῖ δὲ μάχῃ καὶ ἀνωμαλίᾳ τῶν πραγμάτων]. He then claims that their experience with the subjects of learning [ἐπὶ τῶν μαθημάτων] was the same [οὕτω καὶ], which he explains by saying that the skeptics discovered equivalent *aporias* [τὰς δὲ ἴσας εὐρόντες ἀπορίας] (*MI* 6). Clearly, the construction of this passage suggests that ἀπορία is being used as a parallel to conflict and anomaly. But these terms are not synonymous with "refutation." Moreover, it is unclear why – if ἀπορία in this passage means "refutation" – it should be described as "equal" [ἴσα]. The *aporiai* are supposed to be equivalent to the aforementioned conflicts and anomalies. Thus, it is more plausible to read ἀπορία in *Against the Professors* to mean something like "inescapable difficulty" or "irresolvable problem". In any case, this is one place where Sextus does not use ἀπορία to mean

sense that he has not found the answer, but he does hold negatively dogmatic beliefs about the suitability of any answers he has encountered thus far.¹¹⁵ Woodruff claims that Aenesidemus targeted, in particular, beliefs about the nature of things. He distinguished between beliefs of the following forms

(1) It is the nature of x not to be F.

(2) It is not the nature of x to be F.¹¹⁶

Aenesidemus viewed (1) as a dogmatic belief, but assented to beliefs of the form (2).¹¹⁷ In this schema, “It is the nature of” acts as a kind of modal operator, so the difference between (1) and (2) is one of scope. Woodruff points out that (2) is “compatible with the possibility that the object will happen contingently to be F” whereas (1) is not.¹¹⁸ This means that Woodruff views Aenesidemus as a sort of weak modal negative dogmatist. This form of negative dogmatism is evident in the ten modes of Aenesidemus; the modes are argumentative strategies for constructing refutations. They provide various counterexamples that can be used to oppose beliefs of the form:

(3) It is the nature of x to be F.

These refutations rely on the “Invariability Principle” which says that for something to be F by nature, it must be invariably F or be F in all circumstances.¹¹⁹ If x can be shown to

refutation.

115Woodruff (1988, 213) puts it this way: “Truly zetetic and aporetic sceptics would, like Socrates, seek answers to questions and determine that all available answers are wrong, and therefore that they ought to have no positive beliefs on the matters in question.”

116Woodruff (1988, 146) formulates the difference between (1) and (2) as I have it here, but it is clear that he does not mean for (2) suggest that x has a nature. Perhaps a more precise rendering of (2) is (2a) It is not the nature of x to be F, if x has a nature.

117Woodruff (1988, 146).

118ibid.

119Richard Bett (1997) has called this the “Universality Requirement”. He says, “the Universality Requirement is the requirement that that which is by nature F must be invariably F—F for everyone and in all circumstances” (101). Woodruff (2010) distinguishes between different forms of the invariability

be F at one time and not-F at another time, then it must not be F by nature. The modes then provide counter-examples to claims like (3) against which, with the Invariability Principle, the skeptic can argue for conclusions of the form (2).

Consider a brief example: Suppose the dogmatist asserts that it is the nature of the sun to warm the earth. Sextus points out that Demophon, Alexander's waiter, shivered in the sun and was warm in the shade (*PH I 82*). We can imagine the argument going something like this:

- (4) Suppose that it is the nature of the sun to be warm.
- (5) Then the sun warms everyone (by the Invariability Principle and (4)).
- (6) But Demophon was not warmed by the sun (which contradicts (5)).
- (7) So it is not the nature of the sun to be warm (by *reductio*).¹²⁰

On Woodruff's view, the aporetic skeptic assents to the conclusion (7). That is, she takes herself to have demonstrated something (albeit a relative negative claim) about the nature of the sun. Such claims are then typically expressed in skeptical fashion using the “no more” (*ou mallon*) construction: “It is no more the nature of the sun to warm than not to

principle. “Causal Invariability” says that “If it is the nature of x to be F, then x will have F effects, and no effects contrary to F, on anyone on whom it has an effect” (216). Invariability in Appearance says that “Appearance p is trustworthy as to the nature of its object if and only if p appears true to everyone” (218).

120Another way of construing the argument is that (6) implies

- (a) It is consistent with the nature of the sun not to warm.

The Invariability Principle then licenses the inference from (a) to the conclusion (7). In other words, “It is consistent with the nature of x” is simply the correlative modal operator to “It is the nature of x”. Consider:

- (b) It is consistent with the nature of x not to be F.

The Invariability Principle could thus be re-stated as

- (c) It is the nature of x to be F if and only if it is not consistent with the nature of x not to be F.

Or by contraposition,

- (d) it is consistent with the nature of x not to be F if and only if it is not the nature of x to be F.

The ten modes are then set-up to provide examples that satisfy the left side of the bi-conditional in (d) and this allows the aporetic skeptic to assert a belief of the form (2).

warm”, or “The sun no more warms than cools.”¹²¹

It should be clear that Woodruff's aporetic skepticism, insofar as it is a form of weak modal negative dogmatism, is incompatible with Pyrrhonian skepticism as Sextus describes it in his *Outlines*. Sextus' own account of the ten modes indicates that suspension is supposed to follow the application of each mode (*PH* I 36, 78, 79, 91, 99, 100, 117, 123, 128, 129, 134, 135, 144, 163).¹²² Sextus makes it clear that the suspensive skeptic neither affirms nor assents to any conclusion of the form (2), but rather suspends judgment on the question because there are equally compelling considerations that support (3). However, Richard Bett has argued that aporetic skepticism is present in some of Sextus' writing; in particular, Bett claims that Sextus' *Against the Ethicists* (*M* XI) represents a negatively dogmatic view of the sort that I have described above. For example, in chapter 3 of *M* XI, we find Sextus arguing that nothing is good or bad by nature (*M* XI 42-109). Bett connects this form of negative dogmatism with Aenesidemus and his aporetic skepticism.¹²³

It is not the purpose of this work to take issue with the interpretation of Aenesidemus offered above.¹²⁴ But Bett uses this picture of Aenesidemus and Sextus (in *M* XI) to explain what he sees as the essential inconsistency in *Against the Professors*. This is how Bett sums up the charge of incoherence against Sextus:

In his introduction to *M* 1-6, Sextus speaks in the language of the later phase of the Pyrrhonist tradition, the phase represented by *Outlines of Pyrrhonism*. But in

121Again, these are not meant to suggest that the sun has a nature at all.

122As a result, Woodruff (1988) relies primarily on sources other than Sextus (namely, *DL* IX 78-88, *Philo de Inebr.* 169-205, and *Photius Library* 169b18-170b41) to distinguish between these two forms of Pyrrhonian skepticism.

123Bett (1997, xix-xxiii).

124See Schofield (2007) and Hankinson (2010) for a contrasting view.

the main body of the work, he is only partially successful at adapting the arguments against the *mathēmata* that he found in the tradition – arguments that doubtless originated in the earlier phase of the tradition, the phase associated with Aenesidemus – to the Pyrrhonism of the later phase; in many cases their origins in the earlier phase, in which arguments for non-existence were normal and acceptable, remain all too visible. Hence there is an ineliminable, but historically understandable, inconsistency between the plan announced at the beginning of the work, and many of the arguments in the work as it develops.¹²⁵

If Bett is right, we ought to be able to look at *Against the Professors* and find evidence of weak modal negative dogmatism. In the next section, I focus on *Against the Musicians* (*M* VI), and I argue that, there, Sextus does not appear to be a weak modal negative dogmatist. We do not have the evidence of Sextus endorsing the arguments in the way that Bett claims. *Against the Musicians* is a representative sample of the entire treatise because it contains both forms of ambivalence that I raised in the first section. If I can show that *M* VI is not negatively dogmatic, then clearly *Against the Professors* is not entirely negatively dogmatic. Moreover, if the tenor of *M* VI is representative of the entire work, as I have just suggested, then we should conclude that *Against the Professors* is not incoherent in the sense that Sextus expresses both suspensive skeptical and negatively dogmatic positions.¹²⁶

¹²⁵Bett (2006, 31–32).

¹²⁶My proposed method obviously cannot be decisive unless I establish that *M* VI really is representative of the whole work, but I think it adequate for several reasons. First, the majority of the evidence for the incoherence presented in §2.1 came from *M* VI, so *Against the Musicians* must receive the majority of attention in a defense of *M* I–VI. Second, I believe that my approach for dealing with purported negatively dogmatic statements in *M* VI can be extended to cases in the rest of the book. If this is true, explicitly engaging with the other cases in other books will add nothing to my case aside from making it overly long and tiresome. All the same, I will try to point to some of this evidence in the footnotes of the next section. Finally, I do plan to touch on some other cases in later chapters and so, by passing over them now, I avoid unnecessary repetition.

2.3. Is *M VI* Negatively Dogmatic?

Against the Musicians is structured so clearly that we might reasonably expect to detect symptoms there that allow us to diagnose the treatise as a whole. Sextus begins the final book of the work by distinguishing ways in which the term “music” is used; and he indicates that he only intends to attack music understood as a science [*epistēmē*] (*M VI* 1-3). He then outlines the structure of the book by differentiating the “rather dogmatic” arguments from the “more aporetic” arguments (*M VI* 4-6). However, before he offers the refutations of music, he spends some time outlining “the sort of things [said] on behalf of music” (*M VI* 7-18).¹²⁷ Thereafter follow the arguments against music, first the dogmatic arguments from utility (*M VI* 19-37), then the arguments for non-existence (*M VI* 38-67). The book closes with a concluding statement that also serves to sum up the entire treatise (*M VI* 68).

Given my account of negative dogmatism, it might seem reasonable to believe that Sextus is a weak modal negative dogmatist if we can find an argument like (4)-(7) above. We find an argument exactly of this sort at *M VI* 20 where Sextus argues that “in the same way, it is not by nature that some musical tunes are of this type and others are of that type, but they are imagined so by us.”¹²⁸ The evidence he gives is that the same tune can excite horses, but does not excite human beings. This is a clear use of the first mode of Aenesidemus which appeals to variations among animals. By the Invariability

¹²⁷Τοιαῦτα μὲν ὑπὲρ μουσικῆς· (*M VI* 19). It is sometimes said that Sextus does not present arguments on both sides of the question in *Against the Professors*; rather, he only presents refutations. *Against the Musicians* provides a clear counter-example to this claim although admittedly the things said on behalf of music do not seem very convincing. Greaves (1986, 19–24) has suggested that these arguments are meant to be opposed to the refutations that follow, but see also Pellegrin (2006, 41).

¹²⁸τὸν αὐτὸν τρόπον καὶ τῶν κατὰ μουσικὴν μελῶν οὐ φύσει τὰ μὲν τοῖα ἐστὶ τὰ δὲ τοῖα, ἀλλ' ὑφ' ἡμῶν προσδοξάζεται. (*M VI* 20).

Principle, one should expect that if a certain tune is e.g. melancholy by nature, then it should make everyone sad. But since the same tune which brings humans down excites horses, the tune is not melancholy invariably; and therefore it cannot be so by nature. So it is true that Sextus offers arguments that have as their conclusion weak modal negative claims about the nature of things.

However, it is important to notice the context in which this argument appears. In fact, every mention of nature in *Against the Musicians* occurs in the first section of the treatise, the section Sextus clearly labels more dogmatic (i.e. *M* VI 19-37).¹²⁹ So while it is true that Sextus uses negatively dogmatic arguments, he does so fully aware of their dogmatic nature. Given that Sextus typically uses the term 'dogmatic' to indicate positions and attitudes that are not skeptical, we should hesitate to conclude that Sextus himself endorses the conclusion of this refutation.

The example above helps to illustrate the difficulty in analyzing Sextus' stance. The question of whether the book contains negatively dogmatic elements depends on the attitude of the author because what distinguishes the negative dogmatist from the skeptic is whether one endorses the conclusion of a "refutation" or uses the argument to suspend judgment. But when Sextus flags an argument as dogmatic, that is typically a sign that he does not endorse the conclusion. How can we tell when he does endorse a conclusion? We must look for other clues in the text that indicate Sextus' attitude toward the arguments he presents.¹³⁰

¹²⁹See also *M* VI 17, 19 for two other appeals to nature in *M* VI.

¹³⁰Several studies of this sort have been done, but unsurprisingly scholars have come to conflicting conclusions. As we've already seen, Janáček uses the vocabulary and tone of Sextus' writings to argue that Sextus' language choices sufficiently establish the text as negatively dogmatic. In contrast, David Blank (1998, l-iv), drawing on parallels between *M* I and *PH* II, has argued that there is significant

One might plausibly think Sextus endorses the explicitly Pyrrhonian arguments given that he clearly aligns himself with the Pyrrhonian sources at *M I 7*. This thought suggests that we should look for negative dogmatism among the aporetic arguments. Sextus begins the second part of his attack by directing his refutational artillery at a dogmatic definition of music. He says,

Since music is a science of what is harmonious and dissonant as well as of regular and irregular rhythms, if we were to show that tunes do not exist and that rhythms do not achieve substantive reality, then we shall have utterly established that music too is non-existent. (*M VI 38*)¹³¹

In this definition of music, Sextus clearly draws on elements present in musical theorists of his time.¹³² He goes on to define and distinguish types of sound and to present a general theory of notes, intervals and tunes (*M VI 39-51*) after which he outlines his attack on tunes: “But from these things it is clear that the whole melodic theory advanced by the music theorists has subsistence in nothing other than notes, and on account of this, if they are destroyed, then music will be nothing” (*M VI 52*).¹³³ Sextus then argues that notes fall under the genus of sound, so if sound does not exist, notes will not exist either.

Given Sextus' own association with the aporetic parts of the treatise, one might expect Sextus to produce Pyrrhonian arguments at this point; they are after all the “more aporetic” arguments. But he does not. Rather, he gives us arguments which he attributes

continuity of language and argumentative strategy in Sextus' work which lends support to the view that *Against the Professors* fits into the skeptic's program of suspension of judgment.

131 ἔπει ἡ μουσικὴ ἐπιστήμη τίς ἐστὶν ἐμμελῶν τε καὶ ἐκμελῶν ἐνρhythμων τε καὶ ἐκρύθμων, πάντως ἐὰν δείξωμεν ὅτι οὔτε τὰ μέλη ὑπόστατά ἐστιν οὔτε οἱ ῥυθμοὶ τῶν ὑπαρκτῶν πραγμάτων τυγχάνουσιν, ἐσόμεθα παρεστακότες καὶ τὴν μουσικὴν ἀνυπόστατον. (*M VI 38*)

132 For discussions on types of tunes, see Ptolemy *Harm.* 1.4, Aristoxenus *Harm.* 2.36-38. Aristides Quintilianus discusses rhythm in *de Mus.* I 13ff (31ff)

133 Πλὴν ἐκ τούτων συμφανὲς ὅτι πᾶσα ἡ κατὰ μελωδίας θεωρία παρὰ τοῖς μουσικοῖς οὐκ ἐν ἄλλῳ τινὶ τὴν ὑπόστασιν εἶχεν εἰ μὴ ἐν τοῖς φθόγγοις. καὶ διὰ τοῦτο ἀναιρουμένων αὐτῶν τὸ μηδὲν ἔσται ἡ μουσικὴ (*M VI 52*).

to the Cyrenaics, as well as to those who follow Democritus and Plato (*M* VI 53). Sextus makes it clear in the *Outlines* that he considers the Cyrenaic and Democritean positions to be dogmatic, not skeptical (cf. *PH* I 215 and 213-214 respectively). This suggests that what makes the arguments aporetic is not their originating source, but something about their internal structure. Following the positions cited at *M* VI 53, Sextus constructs a dilemma – a common skeptical trope – that invokes *diaphōnia* (disagreement). If sound exists, it must be corporeal or incorporeal. But it is neither since Peripatetic philosophers claim that sound is not corporeal while the Stoics claim that sound is not incorporeal (*M* VI 54). Of course, no one should be convinced by such an argument. But why then should we suppose that Sextus endorses these arguments? It seems pretty clear that Sextus does not endorse at least *some* of the aporetic arguments.

In addition to the arguments mentioned above, Sextus does appeal to Pyrrhonian arguments that claim sound does not exist; they are his own arguments. Actually, he does not give the arguments in full; Sextus does what any modern academic would do; when he needs a claim that he has proven elsewhere, he simply cites himself. Rather than provide the arguments against sound, Sextus cites his “Skeptical Treatises”.

Unfortunately, we cannot be sure that we have the “Skeptical Treatises” although, as I mentioned in the previous chapter (§1.2), it is not unreasonable to suppose that *M* VII-XI form a part of that treatise.¹³⁴ Sextus does offer a short argument in *Against the Logicians* (*M* VIII 131) which concludes that sound does not exist.¹³⁵ Near that argument in *M* VIII,

¹³⁴Diogenes Laertius says that Sextus wrote ten books about skepticism (DL IX 116). It is generally thought that Diogenes is referring to the “Skeptical Treatises” Sextus mentions, and that *M* VII-XI form the latter half of the work. Bett (1997, x) cites Janáček (1963) and Blomqvist (1974) as providing the arguments for this view.

¹³⁵Daniel Dellatre tentatively suggests that Sextus may be referring to *M* VIII 131 at *M* VI 52 in the

he makes it quite clear that he is collecting equally weighted arguments on both sides in order to generate suspension of judgment (cf. *M* VIII 118, 159-161). This raises a new puzzle: how should we take Sextus' claim that the non-existence of sound “has been shown by us” if the proof occurred in a different dialectical context where he did not endorse the conclusion? It would be strange for him to suspend judgment about the earlier argument, but assent to it in this context. If Sextus really changed his skeptical outlook between the time he wrote the “Skeptical Treatises” and *Against the Professors*, we might expect him to flag that fact when he cites arguments offered in a different frame of mind. If, on the other hand, the arguments in *Against the Professors* are offered as part of Sextus' program to generate *epochē*, the previous dialectical context is irrelevant. A suspensive skeptic doesn't care if an argument was used in some other dogmatic context. All that matters for her current purposes is the *isotheneia* that needs to be achieved.

In the next three arguments, Sextus again cites his own work. Unfortunately, these cannot help us determine his view: The first argument depends on the claim that the soul does not exist which Sextus says he has shown in his (now lost) treatise on the soul (*M* VI 55).¹³⁶ The second argument (*M* VI 56) is no more than the citation of an argument in

Pellegrin (2002) edition of *M* I-VI, but, Bury (1949) denies this, although he does not give his reasons for doing so. Bett (2013) agrees with Bury. He argues on the basis of the evidence that follows this citation – for example, that Sextus mentions, for support, his discussion of the Cyrenaic view – that Sextus is referring to *Against the Logicians* (*M* VII 190-200) where he discusses the Cyrenaic account of the criterion. Sextus does not “show” the non-existence of sound anywhere in *M* VII, but he does claim that Cyrenaics deny the existence of everything except the *pathē*. Bett (2013) claims that Sextus suggests that the Cyrenaic position implies that sound does not exist, if sound is understood “as what produces a sensation rather than as itself a sensation” (177, his emphasis). Bett (2013, 178) similarly locates the references to Democritians and Platonists in the various discussions of the criterion in *Against the Logicians* (*M* VII 135 and *M* VII 141-4 respectively). Bett notes that, in each of these cases, Sextus is playing rather fast and loose with his sources.

¹³⁶Bett (2013) has a good discussion of this argument and the ambiguity between the objective vs. subjective understanding of “*phōnē*” for the ancient Greeks (178-179).

Against the Grammarians (M I 124-130) which cannot be used to establish his view in *Against the Professors* because it is part of the current dispute. The final argument involves the familiar problem of becoming: Since sound has temporal extension, it is always in the process of coming-to-be which means that it can never properly be said to be (M VI 57). Here Sextus mentions arguments that he recounts in his “Pyrrhonian Treatises” (M VI 58); if these are distinct from his “Skeptical Treatises” (and assuming that the latter refer to M VII-XI), then this is another lost work.¹³⁷ All the same, we can imagine what these arguments from becoming might look like by observing Sextus' arguments elsewhere concerning generation and destruction (*PH* III 109-114, *M* X 310-351). Of course, this does not help us here because Sextus may not have held the same view in his “Pyrrhonian Treatises” that he has in the extant works.

What we have seen thus far is that the aporetic arguments against sound do not in any obvious way demonstrate that Sextus takes a negatively dogmatic position in the second half of *Against the Musicians*. However, before I conclude anything specifically about Sextus' treatment, I want to examine the second part of his aporetic attack, after which I will sum up what I think we can learn from his arguments.

The second part of Sextus' aporetic attack on music targets rhythm. Again, he defines his terms compositionally; *arsis* and *thesis* are quantities of time and they are used to compose “feet”, which in turn are used to build rhythms (M VI 60). So Sextus' arguments against rhythm focus on the existence of time; if time does not exist, neither

¹³⁷Bett (2013, 179) raises the hypothesis that “Pyrrhonian Treatises” may refer to the *Outlines*, but he dismisses it because some of the arguments which are attributed to the former text do not appear in the latter. Instead, Bett suggests that “Pyrrhonian Treatises” is an alternate title for “Skeptical Treatises.”

will rhythm. Here too, Sextus appeals to his “Pyrrhonian Treatises” for the demonstration of the non-existence of time (*M* VI 61,62)¹³⁸ although in this case, he goes through several arguments following the citation. As it turns out, each of the arguments is present in one or both of Sextus' other extant works.¹³⁹ The first argument claims that time – if it exists – must be limited or unlimited, but it cannot be either (*M* VI 62, cf. *M* X 189-191 and *PH* III 141-142); the second infers the non-existence of time from the non-existence of the past and the future (*M* VI 63, cf. *M* X 192). The remaining arguments all focus on the claim that time – if it exists – must be divisible or indivisible, but it cannot be either.¹⁴⁰ Here Sextus cites Timon as an authority for the claim that time cannot be indivisible (*M* VI 66, cf. *M* X 197).

When Sextus uses these arguments against the existence of time in the *Outlines*, he makes it clear that these arguments are meant to be opposed to other considerations for the claim that time does exist. He says, “We experience the same thing also in the investigation concerning time: For, as far as the appearances are concerned, it seems that time is something, but as far as the things said about it are concerned, it appears to be

138While introducing the arguments against time, Sextus seems to be attempting a little temporal humor which the translators do a poor job in capturing: “We already showed that ‘time is nothing’ in the ‘Pyrrhonian Treatises’, but we will show – up to a point – that it is *still* nothing *even at present*” (*M* VI 61) The Greek is “ὅτι οὐδέν ἐστι χρόνος, ἥδη μὲν παρεστήσαμεν ἐν τοῖς Πυρρωνείοις, οὐδὲν δὲ ἤττον καὶ τὰ νῦν παραστήσομεν ἐπὶ ποσόν.” Of course, Sextus is not nearly as funny as he seems to think he is.

139cf. *PH* III 136-150 and *M* X 169-247.

140Sextus says time cannot be indivisible because a) it is said to have parts: past, present and future (*M* VI 64, cf. *PH* III 143 and *M* X 193), b) divisible processes (becoming and perishing) cannot come to be in indivisible time (*M* VI 66, cf. *PH* III 144 and *M* X 197), and c) if it is indivisible, it will not even be conceptually divisible; but if that is true, time cannot be said to have a beginning or middle or end (*M* VI 67, cf. *M* X 198). Sextus says time cannot be divisible because a) divisibles are measured by their parts, but it would be absurd to measure the past by the present or the present by the future (*M* VI 64-65, cf. *PH* III 143 and *M* X 194-196), and b) if time is divided, it will be divided into times that exist or times that don't exist. If they do not exist, then time does not exist; but they cannot all exist because you cannot have simultaneously existing distinct presents (*M* VI 67, cf. *PH* III 145-146 and *M* X 199-200).

insubstantial” (*PH* III 136).¹⁴¹ Sextus goes on to invoke the mode of *diaphōnia* after rehearsing the various philosophical views on the metaphysics of time (*PH* III 136-140).

Given this exposition of the aporetic arguments in the second half of *Against the Musicians*, can we conclude that Sextus expresses a form of negative dogmatism? Certainly none of these arguments explicitly draw negative modal conclusions about music's nature. Instead, the arguments in the second part of the book make negative existential claims: Sound is insubstantial (*M* VI 52); sound does not exist (*M* VI 54, 55, 56); sound is nothing (*M* VI 57). But these conclusions are not sufficient to establish that Sextus is a negative dogmatist. Recall that all of the arguments against sound occur within the dialectical context of Sextus' arguments against the definition of a musical science, a definition to which he himself is not committed. Sextus even flags this dialectical context when he introduces the arguments against sound, by saying, “Given that notes fall under the genus of sound, we shall say, sound has also been shown by us to be non-existent *from the testimony of the dogmatists*” (*M* VI 52 – my emphasis).¹⁴² In other words, the aporetic arguments are those which use the dogmatists' own concepts and definitions against them, but Sextus himself is not committed to the definitions offered. Even if the refutation of this definition is successful, another definition of sound or music might fare better. Moreover, he is not committed to the refutation of music being successful because the refutation depends on the non-existence of time (and sound); and he is not committed to the non-existence of time because the refutation of time also

141Τὸ δὲ αὐτὸ πάσχομεν καὶ ἐν τῇ περὶ τοῦ χρόνου ζητήσει· ὅσον μὲν γὰρ ἐπὶ τοῖς φαινομένοις δοκεῖ τι εἶναι ὁ χρόνος, ὅσον δὲ ἐπὶ τοῖς περὶ αὐτοῦ λεγομένοις ἀνυπόστατος φαίνεται (*PH* III 136).

142ἐκ τοῦ φωνῆν αὐτοὺς κατὰ γένος ὑπάρχειν, φήσομεν, καὶ τὴν φωνὴν ἀνύπαρκτον ἡμῖν ἐν τοῖς σκεπτικοῖς ὑπομνήμασι δεδειχθαι ἀπὸ τῆς τῶν δογματικῶν μαρτυρίας. (*M* VI 52)

appeals to a dogmatic understanding of what time is. Since it appears to Sextus that time exists, he will suspend judgment on this question (*PH* III 136).

Someone might object, at this point, that Sextus claims to show *something* at *M* VI 52, which implies that he endorses a view. But, he is not claiming to have shown that sound does not exist. If he has shown anything, it is that certain dogmatic metaphysics, like that of the Cyrenaics or Democritians, do not allow for the existence of sound.¹⁴³ Still, my opponent might say, even on your view, this amounts to endorsing an argument. Perhaps so, but I do not think it makes Sextus a negative dogmatist. He is not claiming that sounds does not exist; he even explicitly affirms that time appears to exist. What he does argue is that the dogmatic definition of sound (and time) have conceptual problems under certain metaphysical positions.¹⁴⁴

It is true that Sextus makes negative existential claims when he argues against music, but these claims are not enough to establish that Sextus is an existential negative dogmatist. When Sextus' apparent negative existential conclusions are viewed in their argumentative context, it is clear that he is not committed to the conclusions. So what exactly should we conclude by looking at Sextus' sources in the second part of *Against the Musicians*? These passages suggest three things:

First, it is incorrect simply to equate the “more aporetic” arguments with

143Part of what is at stake here is just how to take the phrase “ἀπὸ τῆς τῶν δογματικῶν μαρτυρίας.” I take it to mean that Sextus' refutation of sound depends on the dogmatic view of reality and sound, and not that Sextus is endorsing certain arguments from the dogmatists. I think that the way Sextus proceeds to argue in the text bears this interpretation out.

144Someone might similarly point to *M* VI 38 where Sextus claims that he will establish or prove [*parestakotes*] that music does not exist. But, this claim is the consequent of a conditional statement. Sextus claims he will show that music does not exist if he shows that notes and rhythms do not exist. Does he satisfy the antecedent? As I have already pointed out, this is a difficult question to answer. Sextus suggests elsewhere that he suspends judgment about the existence of sound and time, so perhaps, the consequent is also suspended.

Pyrrhonian skepticism since Sextus uses arguments from a number of different sources, including philosophers he calls dogmatic elsewhere.¹⁴⁵ So we cannot claim that Sextus affirms these arguments simply based on his allegiance.

Second, the arguments that Sextus does attribute to Pyrrhonian sources are ones that he himself uses elsewhere for other purposes. Recycling arguments for different purposes is common in Pyrrhonism;¹⁴⁶ and in *Against the Musicians*, Sextus uses his arguments against time and sound to demonstrate the non-existence of music. The diagnostic difficulty remains though; how should we take Sextus' attitude toward the arguments themselves given that sometimes he clearly opposes these negative existential arguments to positive considerations (e.g. that it appears that time exists)? These arguments are used elsewhere to generate the skeptical suspension of judgment. Given this, the arguments themselves cannot serve as evidence for Sextus' view. We cannot conclude that Sextus means to affirm the claim that music is non-existent simply on the basis of his offering arguments with that conclusion because we cannot conclude that Sextus affirms the premise that time does not exist, which is necessary for the establishment of the former claim. The arguments themselves are no evidence for negative dogmatism in *Against the Professors*.

The third and final thing that this section demonstrates is the character of what Sextus means by “more aporetic” arguments as opposed to the earlier “more dogmatic”

¹⁴⁵Both Barnes (1988, 58) and Bett (2006, 26) seem to equate the aporetic arguments with Pyrrhonism. Later, Bett (2013) tempers this claim, saying that the aporetic arguments are ones “to which [Sextus] has more attachment than the first” (i.e. dogmatic) arguments (162).

¹⁴⁶For example, Sextus uses the arguments against education in two ways: Once to show that subjects of learning do not exist (M I 9-40), and two other times to show that even if an expertise in living exists, it cannot be taught or learned (*PH* III 252-273 and *M* XI 216-256)

arguments. The argumentative structure of the aporetic section begins with a dogmatic definition of the science of music (*M* VI 38), and then proceeds to argue against music by undermining the conceptual (or metaphysical) foundations of the definition. Sextus does not argue that music does not exist by arguing against the music theory itself, but by denying the existence of the categories on which the definition of music relies, what I will, in a later chapter, call the foundational presuppositions of the discipline.¹⁴⁷ What makes these arguments aporetic as opposed to dogmatic is that the conclusion (“music does not exist”) only follows from the definition of music offered (and perhaps some metaphysical presuppositions), but the skeptic is in no way committed to that particular definition (or the presuppositions). The definition itself comes from dogmatic music theorists, so the aporetic destruction of music is *ad hominem* in the sense that, as a refutation of music, it depends on the theorists' own understanding of their science. This contrasts with the more dogmatic attack on music which does not appeal to the definition or essence of music when it argues for the thesis that music is not useful for happiness.¹⁴⁸

Since the more aporetic arguments in *Against the Musicians* are no help in determining whether Sextus takes a negatively dogmatic position, all that remains is to look at what he says *about* the arguments in the book. Sextus' organizational statements could indicate whether he means the arguments to be taken as his own position; he himself should tell us whether the arguments are to be interpreted *in propria persona*. For

¹⁴⁷This gives the impression that Sextus doesn't really know or care that much about music itself. See Bett (2013) for a discussion of relative lack of interest that skeptics had in aesthetic matters.

¹⁴⁸Marchand (2011) puts it similarly, “The more dogmatic way implies a thesis, for example in the case of music, that music is not necessary to be happy, which is a thesis assumed by an Epicurean like Philodemus or by Diogenes the Cynic. For its part, the more aporetic way destroys the musical art (*AM* VI 4-5)” (136).

example, as I indicated above, Richard Bett claims we get a clue about Sextus' attitude from his several uses of the term *pragmatikōs*. Bett takes *pragmatikōs* to be a favoring term that indicates which arguments Sextus considers to be most effective in “destroying” their subject matter. In other words, the use of *pragmatikōs* indicates that Sextus endorses the arguments it precedes.¹⁴⁹

While I agree with Bett that *pragmatikōs* cannot mean “practically” as Greeves and Bury would have it, it is not clear that the term involves the sort of affirmation that Bett suggests.¹⁵⁰ Etymologically, the adverb and the adjective come from the noun *pragma*, an extremely vague word (which is often difficult to translate) that generally means “thing” or “matter”. Liddell, Scott and Jones (LSJ) divide the term *pragmatikos* primarily into three groups of definitions. The word can either refer a) to an agent or his action, or b) more generally to business or political and legal affairs, or c) to a subject-matter or some relation to fact. In this latter group of definitions, “fact” or “material” often contrasts with the merely verbal or formal. It is true that “effective” is a possible definition although LSJ only cite one example of this meaning, specifically referring to incantations. While the definition “practically” does not make sense in Sextus' text, it is not clear that “effectively” is to be preferred to a meaning relating to facts or subject

¹⁴⁹Bett (2006, 22–23, 27) argues for this position. Bett (2013) reiterates this point.

¹⁵⁰Marchand (2011) tries to navigate a view between Bury / Greeves and Bett. He says that Sextus uses the term *πραγματικῶς* to mean something like “pragmatically” or “efficiently”; both terms can (although need not) be favoring terms. Marchand suggests that “Sextus' pragmatic style” involves distinguishing between the loose and strict use of language and that it “implies renouncing strictness and precision in speaking” (126). However, it is difficult to make sense of Sextus' own use of the term *πραγματικός* in this way. As I've pointed out above, Sextus uses the term to describe a series of arguments which he presents quite precisely. It seems implausible that he would call such arguments “more pragmatic”, if, by that, he meant that the arguments only used language loosely.

matter.¹⁵¹

The issue of determining what Sextus means by this term is made more difficult because he only uses the adverbial form 5 times and the adjectival form 3 times.¹⁵² When Sextus uses the term *pragmatikos* in *Against the Musicians*, he says, “The first kind of refutation against the musicians is of this sort [i.e. the dogmatic attack from utility], but the second kind, since it attacks the principles of music, involves a more *pragmatikos* investigation” (*M* VI 38).¹⁵³ As we have seen, when Sextus says that these arguments attack the principles of music, he means that they attempt to undermine the metaphysical presuppositions of the definition of music. In other words, they focus on the essential subject matter – the *pragma*, if you will – of music in contrast to the dogmatic arguments which attack some non-essential or relative feature of music (for example, how we as humans respond to it). In light of this, the most straight-forward rendering of *pragmatikōteros* in the passage above would be “involves a more substantive investigation” where “substantive” is not a favoring term, but simply indicates that the

151The French Pellegrin translation also seems to prefer the latter definition although it is not entirely consistent in its translation of πραγματικῶς (probably due to different people translating different books). At *M* I 7, the French translates τὰ πραγματικῶς λεγόμενα as “des arguments de fond”, but at *M* V 106, the French translates the Greek Τοσαῦτα μὲν οὖν ἐστὶ καὶ τὰ πραγματικῶς δυνάμενα λέγεσθαι πρὸς τοὺς Χαλδαίους as follows: «Voilà donc tous les arguments que l'on peut donner contre les Chaldéens si l'on s'en tient aux faits» In this case, the phrase “si l'on s'en tient aux faits” seems to be a significant over-translation and not one that can easily be made to cohere with Sextus' other remarks without spelling out in some detail what is meant by “facts”. See J. Delattre (2006) for more discussion of the French translation of πραγματικῶς. Spinelli (2010) similarly translates πραγματικῶς at *M* VI 68 as “basing ourselves effectively on factual data” (249). In his Italian translation of *Against the Astrologers*, Spinelli (2000) uses the concise “efficace” at *M* V 106 although Marchand (2011, 126 n64) points out that the commentary in that work “emphasizes the link between this adverb and what is considered as a fact”.

152Sextus uses πραγματικῶς at *PH* III 13, *M* I 7, II 28, V 106, VI 68. He uses the comparative adjectival form πραγματικωτέρας at *M* I 63 and VI 38. He uses the simple adjectival form πραγματικὸν at *M* I 43.

153 Ἀλλὰ τὸ μὲν πρῶτον εἶδος τῆς πρὸς τοὺς μουσικοὺς ἀντιρρήσεως τοιούτοτρόπῳ ἐστὶν, τὸ δὲ δεύτερον καὶ τῶν τῆς μουσικῆς ἀρχῶν καθαπτόμενον πραγματικωτέρας μᾶλλον ἔχειται ζητήσεως. (*M* VI 38).

arguments will attack the discipline as it is defined by the theorists. Other uses of *pragmatikos* in Sextus bear this interpretation out. The only other time Sextus uses the comparative form, he offers an argument that aims to undermine the definition of grammar held by Dionysius of Thrace (*M I* 63). Here again, the argument targets the definition and attempts to refute it by calling into question its underlying assumptions. What is interesting about this passage is that after Sextus recounts the argument, he goes on to say, “But after we set aside the quibble about these sorts of things, let us examine, as we promised, whether grammar, insofar as it is based on this sort of conception, can be real in the end” (*M I* 65).¹⁵⁴ Clearly, Sextus would not introduce an argument as “effective” and then turn around and say it was “quibbling” [*leptologeîn*].¹⁵⁵ Here, at least, the term *pragmatikos* does not represent “favoring” on Sextus’ part.¹⁵⁶ Rather it is a way of indicating the *type* of argument he is using, one that involves an attack on the definition(s) and fundamental principles of the domain in question.¹⁵⁷

Even if *pragmatikos* represents an endorsement of sorts, one might still wonder in

154 Ἀλλὰ παρέντες τὸ περὶ τῶν τοιούτων λεπτολογεῖν σκοπῶμεν, ὥς ὑπεσχόμεθα, εἰ δύναται τέλος, ὅσον ἐπὶ τῇ τοιαύτῃ ἐννοίᾳ, ὑποστῆναι ἡ γραμματική (*M I* 65).

155 Blank (1998) translates *leptologeîn* “nit-picking”. Bury (1949) translates it “splitting hairs”.

156 Another reason to suppose that my interpretation of Sextus’ use of *pragmatikōs* is correct comes from cases which seem to parallel Sextus’ usage, but where he does not actually use the term. In *M II*, when Sextus transitions to the “aporetic” arguments, he says, “But, after this, let us look into [rhetoric’s] non-existence also from the matter concerning ‘what it is’” (*M II* 48). The Greek says, τὸ δὲ μετὰ τοῦτο καὶ ἐκ τῆς ὕλης περὶ ἣν ἐστὶ σκοπῶμεν αὐτῆς τὸ ἀνυπόστατον (*M II* 48). I take it that the term *pragmatikos* is often meant to be short hand for the phrase “from the matter concerning ‘what it is’ [ἐκ τῆς ὕλης περὶ ἣν ἐστὶ].”

157 Other uses of *pragmatikos* are less clear and could go either way. Given that, such uses on their own cannot serve as evidence that Sextus endorses the arguments in question. The only time that *pragmatikōs* is used outside of *Against the Professors*, Annas and Barnes (2000) also translate it “substantial”: “Lest the Dogmatists should try to slander us because they are at a loss to produce *substantial* counter arguments, we shall raise more general puzzles about active causes, having first tried to focus on the concept of a cause.” (my emphasis) The Greek reads, ἵνα δὲ μὴ καὶ ἡμᾶς βλασφημεῖν ἐπιχειρήσωσιν οἱ δογματικοὶ δι’ ἀπορίαν τοῦ πραγματικῶς ἡμῖν ἀντιλέγειν, κοινότερον περὶ τοῦ ἐνεργητικοῦ αἰτίου διαπορήσομεν, πρότερον ἐπιστήσαι πειραθέντες τῇ τοῦ αἰτίου ἐπινοίᾳ (*PH III* 13).

what the sense the arguments are meant to be “effective”. Bett suggests that the effectiveness of the arguments involves their ability to “destroy” the subject matter in question.¹⁵⁸ Such an interpretation depends on the close association of Sextus with his aporetic sources since they are the ones who are said to want to “destroy the whole of music” (*M* VI 5). This interpretation oversimplifies Sextus' position in relation to his sources in two ways. First, as I have already argued, one cannot simply equate Sextus' aporetic sources with Pyrrhonism, as he clearly includes Plato and Democritus, as well as the Cyrenaics in that camp (*M* VI 53). Second, and more importantly, Sextus demonstrates that his relationship to his aporetic sources is not simply one of blind acceptance when he describes his purpose for arguing against the music theorists toward the beginning of the book. He says,

The form of this type of refutation is two-fold, just as in the case of grammar. So, on the one hand, some try to teach rather dogmatically that music is not a necessary subject of study for happiness...[5] But others, more aporetically, standing apart from all of this sort of refutation, thought that by shaking the first principles of the musicians, they would also destroy the whole of music. [6] From which we ourselves, in order not to seem to cheat [anyone] out of some teaching, will also inspect the character of each dogma and matter [*pragma*] rather summarily, not going beyond into extraneous topics through long expositions, nor failing to present necessary accounts regarding the exposition of those things which are important, but producing the teaching that is as moderate and measured as possible. (*M* VI 4-6)¹⁵⁹

158Bett (2006) says, “Again we find the word *pragmatikōs*, 'effectively'; Sextus is suggesting that his arguments against astrology are successful. And success in this context is naturally understood as success in defeating the astrologers” (27).

159τῆς δὲ ἀντιρρήσεως, καθάπερ καὶ ἐπὶ γραμματικῆς, διττόν ἐστι τὸ εἶδος. οἱ μὲν οὖν δογματικώτερον ἐπεχείρησαν διδάσκειν ὅτι οὐκ ἀναγκαῖόν ἐστι μάθημα πρὸς εὐδαιμονίαν μουσική, ἀλλὰ βλαπτικὸν μᾶλλον, καὶ τοῦτο δείκνυσθαι ἔκ τε τοῦ διαβάλλεσθαι τὰ πρὸς τῶν μουσικῶν λεγόμενα καὶ ἐκ τοῦ τοὺς προηγουμένους λόγους ἀνασκευῆς ἀξιοῦσθαι· [5] οἱ δὲ ἀπορητικώτερον πάσης ἀποστάντες τῆς τοιαύτης ἀντιρρήσεως ἐν τῷ σαλεύειν τὰς ἀρχικὰς ὑποθέσεις τῶν μουσικῶν ᾤθησαν καὶ τὴν ὅλην ἀνηρῆσθαι μουσικὴν. [6] ὅθεν καὶ ἡμεῖς ὑπὲρ τοῦ μὴ δοκεῖν τι τῆς διδασκαλίας χρεωκοπεῖν, τὸν ἐκατέρου δόγματος ἢ ἀπορήματος χαρακτηῖρα κεφαλαιωδέστερον ἐφοδεύσομεν, μήτε ἐν τοῖς παρέλκουσιν ὑπερεκπίπτοντες εἰς μακρὰς διεξόδους μήτε ἐν τοῖς ἀναγκαιοτέροις ὑστεροῦντες πρὸς τὴν τῶν ἐπειγόντων ἔκθεσιν, ἀλλὰ μέσσην καὶ μεμετρημένην κατὰ τὸ δυνατόν ποιούμενοι τὴν διδασκαλίαν. (*M* VI 4-6)

In this passage, Sextus contrasts his own approach with that of *both* the dogmatic types *and* the aporetic types. The aporetic folks aim at the destruction of music. Sextus' purpose, as he tells it here, is to give us a general account that doesn't leave anything out. It is important to note that Sextus does *not* associate himself with the aporetic destruction project here. Rather, he portrays himself as wanting to give a balanced and moderate account of the case. This fact casts further doubt on the claim that Sextus means to endorse the aporetic arguments as opposed to the dogmatic arguments.¹⁶⁰ But it also shows that Sextus distinguishes his own motivation from that of his Pyrrhonian or aporetic predecessors. We should not infer from the fact that Sextus labels himself a Pyrrhonian in the proem of the work to the claim that he endorses the conclusions of the arguments from Pyrrhonian sources.¹⁶¹ There is a good independent reason for this: Pyrrhonian skepticism was not a school unified under a single set of *dogmata* or even under a single set of goals and purposes (*PH* I 16).¹⁶² Rather it is a way of life followed

160I think we can extend this result to many of the other places in *Against the Professors* where scholars have tended to read Sextus as endorsing the aporetic view. I might add that, in several cases where Sextus does seem to claim the aporetic destruction project as his own, his claim is based on some condition. For example, at *M* IV 1, he claims he will destroy the art of arithmetic *if* he can destroy the concept of number. Of course, if he suspends judgment about the status of the antecedent, then it is unclear whether he is really claiming that he has destroyed arithmetic. In a few cases, Sextus does seem to claim that he will, at least, attempt to destroy the subject matter (e.g. *M* I 40). This looks like Sextus is endorsing a position, which could be a problem for my view. I cannot address this issue further at this point, but I will address it again in chapter 5. However, I do think that I have shown that the number of times that Sextus appears to endorse an argumentative conclusion in *Against the Professors* is much less than initially thought.

161Similarly, we should not conclude that, because Sextus distances himself from Epicurean arguments by calling them dogmatic, he necessarily rejects the idea that a proper *technē* is useful. He can both distance himself from dogmatic arguments, like those at *M* II 26-43, and still think utility is relevant to determining whether something is a *technē*. I will explore the way that Sextus does this in chapter 5.

162Sextus himself notes diversity in skepticism. For example, he distinguishes his view of the skeptical *telos* (he says it is tranquility [*ataraxia*] in matters involving belief and moderation of feeling [*metriopatheia*] in matters that are forced on us, *PH* I 25) from that of other skeptics who add "suspension of judgment [*epochē*] in investigations" as a further end (*PH* I 30). Diogenes Laertius also records disagreement among the skeptics regarding the end (*DL* IX 108).

by those who share a particular argumentative ability (*PH* I 8-11,16-17). So while Sextus does associate himself with Pyrrhonism in *M* I 7, this association does not include any doctrinal commitments.

Once we understand this, there appears to be very little evidence in *Against the Musicians* that Sextus dogmatically endorses the conclusions for which he argues. In fact, all that remains is an appeal to silence: Sextus does not offer much in the way of positive considerations that we might oppose to his negative ones in order to generate the skeptical suspension of judgment.¹⁶³ But, that is not evidence that Sextus is a negative dogmatist on its own because as we have seen, he will often make arguments on one side assuming that (a) the case for the other side is already made by the dogmatists (in this case, presumably by the music theorists themselves) and (b) his readers perhaps already harbor dogmatic tendencies in favor of the positive side. So we should not conclude that Sextus is a negative dogmatist because he does not argue convincingly in favor of music theory.

In this section, I have argued that Sextus does not appear to be a negative dogmatist of any sort in *Against the Musicians*. Instead, he shows awareness of the dogmatic nature of the arguments he offers and clearly distinguishes the argumentative purposes of his sources from the purposes for which he uses those arguments. Although I do not have space to do so here, I believe that a similar case can be made for each of the other five books of *Against the Professors*.¹⁶⁴ If I am correct about this, then Sextus does

¹⁶³Although see n127 above.

¹⁶⁴Note that, in this section, I have dealt with nearly every passage that I cited in the case for incoherence (section 2.1). So, while section 2.3 itself may not represent a complete defense of *Against the Professors*, I think it goes some way to establishing the case.

not take a negatively dogmatic perspective in the treatise.

2.4. A Second Opinion on the Coherence of M I-VI

Others have diagnosed Sextus with a mental split in *Against the Professors* because he associates himself with suspensive skepticism in the proem while he appears to argue as a negative dogmatist in the body of the work. I submit that this interpretation is mistaken. There is not sufficient evidence that Sextus is of two minds regarding his skeptical attitude, and in light of his opening declaration, we ought to conclude that he suspends judgment regarding the utility and existence of the subjects he attacks.

My analysis allows us to diagnose the scholarly disorder that causes this mistake. One symptom in previous interpretations involves the identification of aporetic, Pyrrhonian arguments with Sextus' own position. Admittedly, Sextus encourages this identification in the proem when he says that he follows the same way of life as they do (M I 7). But, it is our own dogmatic tendency – what Sextus would consider our own mental disturbance – that leads us to suppose that his association with Pyrrhonism commits him to any view regarding the status of Pyrrhonian arguments. Obviously, since the skeptics have no doctrine that unites them, Sextus' association with Pyrrhonism involves neither a commitment to other skeptic's arguments nor to their so-called conclusions. Once we see this, the inconsistency is revealed as an illusion, our own projection.

The remedy – recognizing our dogmatic bent – also suggests an answer to the other apparent inconsistency. Why should Sextus claim not to affirm Epicurus' dogmatic

arguments from utility, yet later appeal to usefulness when identifying skeptically acceptable subjects of study? Consider for a moment why Sextus should include dogmatic arguments at all. If he suspends judgment about the utility of the subjects in question, he is neither committed to the conclusions of the dogmatic arguments, nor committed to their negation. Portraying Sextus' attitude toward these arguments as “distance” does not mean that Sextus rejects the conclusions any more than he accepts them. Sextus may use any argument he pleases without being committed to it in any way and without regard for its source. The original source and purpose of the argument is of no account to this skeptic.

The real question is not whether Sextus affirms a dogmatic criterion for distinguishing the acceptable subjects of study from the unacceptable. The question is whether Sextus can affirm anything given his suspensive attitude toward the arguments and positions he offers. But this is simply the first presupposition that I raised at the outset. Can Sextus have a view about anything at all? It looks as if the coherence of *Against the Professors* depends on whether Sextus can consistently hold a view. And this is the question to which we now turn.

2.5. Can Sextus have a View?

While I have argued that we cannot use the arguments Sextus deploys in *Against the Professors* as direct evidence of his view on the subjects in question, he clearly does express something like his own opinion in the treatise from time to time. It is hard to imagine, for example, that Sextus is not expressing personal thoughts when he claims that

grammar “is over-confident in its status over all sciences, nearly making the Sirens' promise” (*M I 41*).¹⁶⁵ Similar examples can be drawn from the various programmatic remarks Sextus makes when he introduces each subject at the beginning of a book or draws a group of arguments to a close. It is difficult to know how to construe these statements in light of his claims that he lives without beliefs. Such statements may be seen by some as further evidence of an incoherence in skepticism as a whole if not this treatise in particular. In order to answer the central question of this section, we need to step back and discuss the general character of Pyrrhonian skepticism further.

The question of whether Sextus can have a view on something may be interpreted as a question about the scope of skepticism. That is, can the skeptic have any beliefs and if so, what types of beliefs can she have without sacrificing her skepticism? Part of the difficulty with putting the question this way is that there does not seem to be any single Greek word that corresponds neatly to our word “belief”. Nevertheless, it is worth picking up the question left open in §1.1 on the skeptical disposition in order to think more carefully about the scholarly debate on this topic. In what follows, I will argue that we can think of Sextus as having a view no matter where we come down on the question of the scope of skepticism.

Most scholars generally take one of two sides in the debate. On the one hand, scholars like Frede, Brennan and others have argued that Sextus has many “ordinary” beliefs and what he avoids as a skeptic are certain types of beliefs, often spelled out as

¹⁶⁵εἶθ' ὅτι παρὰ πάσας θρασύνεται τὰς ἐπιστήμας, σχεδὸν τι τὴν τῶν Σειρήνων ὑπόσχεσιν ὑπισχνουμένη. (*M I 41*)

philosophico-scientific beliefs about the nature of things in the world.¹⁶⁶ Others, like Burnyeat and to a certain extent Barnes, have argued that Sextus means to say that the skeptic does not have any beliefs at all.¹⁶⁷ Barnes gives the former interpretation the title “urbane” and, following Galen, calls the latter interpretation “rustic”.¹⁶⁸ Barnes himself points out that Sextus' *Outlines* are not entirely clear, at times seeming to favor the urbane interpretation, while at others favoring the rustic.¹⁶⁹

Determining whether Sextus primarily expresses urbane, rustic or perhaps even some other form of skepticism is no easy matter. As I explained in §1.1, Sextus claims that the skeptic operates without belief (*dogma*), but he also makes clear that he means this in only one sense of *dogma* and not in another. That is, Sextus says that he does not assent to *dogma* if the term refers to some of the unclear matters investigated by the sciences, but he does “dogmatize” if that means assenting to what is forced upon him (*PH I 13*). One difficulty involves delineating exactly what counts as unclear matters investigated by the sciences. On one version of the urbane interpretation, the skeptic

166The classic statement of this thesis is in Frede (1987), but see also Frede (1984) and Brennan (2000).

167The well-known Burnyeat (1980) piece is probably the clearest statement of this thesis. Brennan (2000, 64–65) mentions Hume and Johnson in the early modern tradition, as well as Barnes more recently. See also Thorsrud (2009, 173–200).

168Galen, in his *De praecognitione*, dismisses Alexander of Damascus, a peripatetic, as being a “rustic Pyrrhonian” when Alexander presses him on whether we should believe the evidence of our senses (14.628K). Some scholars multiply names for these positions. Brennan (2000) calls “rustic” skepticism “rabid” because the rustic skeptic would, in general, be a danger both to herself and to those around her. In contrast, he calls the “urbane” interpretation “revisionist”, I suppose, because at the time, it was seen as opposing the scholarly consensus. Burnyeat (1984) famously calls the “urbane”, the “country gentleman” interpretation after Montaigne. Fine (1996) calls the “rustic” the “no-belief” view, but she points out that the rustic/urbane distinction does not exhaust the possibilities as a skeptic might be neither rustic nor urbane as these positions are normally interpreted. Thus, she advocates using the “some-belief” view to include both the urbane position and what she calls the “suburban” skeptic.

169Barnes (1982) makes this point, but he also claims that the text seems to favor the interpretation that attributes no beliefs to the skeptic whatsoever. Barnes does not think this interpretation precludes the skeptic from teaching and practicing a skill or expertise. But it does mean that Sextus does not have any beliefs about the general character of the *technai* that skeptics can practice. For a more recent take on his position, see Barnes (2007).

suspends judgment only about specialized subjects, perhaps the doctrines expressed by the philosophical schools; she can have beliefs, for example, about everyday objects and circumstances.¹⁷⁰ Of course, as we saw, Sextus seems to attack “ordinary” beliefs – like those basic beliefs about time and place – just as he attacks philosophical positions. Given that almost any claim is, in a sense, open to philosophical or scientific investigation, those who favor the rustic interpretation suggest that the skeptic must suspend judgment about everything.¹⁷¹ But the rustic interpretation must explain what Sextus means when he says the skeptic *does* dogmatize in the sense of assenting to that which is forced upon him. To this end, Barnes emphasizes Sextus's use of the term *eudokein* (*PH* I 13), interpreting this as “acquiescence” rather than “assent”, so that dogma in this sense is not a belief.¹⁷²

This raises a further difficulty for the rustic interpretation: The skeptic will verbally affirm many things. For example, Sextus says that the skeptic affirms that honey seems sweet (*PH* I 20). Perhaps more to the point, Sextus tells us, in Book I of the *Outlines*, what *he thinks* defines Pyrrhonian skepticism. What is expressed therein, if not his beliefs about his own philosophy? Sextus tells us that these too are appearances:

But concerning the skeptical way of life, we will speak in outline in the present work; while we declare that we maintain none of what is said here as if it holds completely in this way just as we say, but we report descriptively concerning each

¹⁷⁰For Frede (1987), the distinction seems to be between theoretical and non-theoretical beliefs (195).

Brennan (2000) has claimed that the skeptic only suspends judgment on those “dogmata” of the “professional schools of philosophy” (64).

¹⁷¹Obviously, one can ask of any belief whether it is true. Barnes (1982) says that “the Pyrrhonist of *PH* will have no ordinary beliefs at all...In rejecting δόγματα the Pyrrhonist must reject ordinary beliefs; for the possession of ordinary beliefs presupposes the possession of at least one δόγμα—the δόγμα that there is a criterion of truth” (78).

¹⁷²Barnes (1982, 75). As a contrast, see Frede (1987, 193–194) on *eudokein*.

thing according to how it now seems to us. (*PH I 4*)¹⁷³

Sextus claims that he offers a sketch in the *Outlines* of how things appear to him right now. If we take him at his word, then Sextus expresses his entire philosophy as a series of appearances.¹⁷⁴ The important question about these appearances from the standpoint of the scope of skepticism is whether they count as beliefs. It is not entirely clear that they do. “Appearances” - in Greek as well as English – can be doxastic. If Sextus says that honey seems sweet in the doxastic sense, then he holds the belief that honey is sweet. However, an appearance can also be non-doxastic. The stick can appear bent in the water, even though I do not believe it is bent. If Sextus says that honey seems sweet merely in some sort of relative perceptual sense, then perhaps he means that honey appears sweet to him even if he does not believe it *is* sweet.¹⁷⁵ On the rustic reading, all skeptical appearances are non-doxastic. Barnes, echoing Wittgenstein's discussion of avowals, suggests that everything Sextus reports should be interpreted as a speech act that expresses his *pathē* rather than a statement that expresses his belief.¹⁷⁶ The skeptic who says “my knee hurts” expresses her pain much like the child who cries out expresses his. Neither one need have any beliefs about the experience.

173περὶ δὲ τῆς σκεπτικῆς ἀγωγῆς ὑποτυπωτικῶς ἐπὶ τοῦ παρόντος ἡμεῖς ἐροῦμεν, ἐκεῖνο προειπόντες, ὅτι περὶ οὐδενὸς τῶν λεχθησομένων διαβεβαιούμεθα ὡς οὕτως ἔχοντος πάντως καθάπερ λέγομεν, ἀλλὰ κατὰ τὸ νῦν φαινόμενον ἡμῖν ἱστορικῶς ἀπαγγέλλομεν περὶ ἐκάστου. (*PH I 4*)

174Recall that the appearances for Sextus are not merely sensory perceptions, but include complex and abstract cognitive attributions. For example, we can say that it appears to Sextus that the causal principle of skepticism [*archē aitiōdēs*] is the hope of achieving tranquility [*elpis tou ataraktēsein*] (*PH I 12*). This is not a sensory perceptual appearance, but something that he has (presumably) thought out as part of his investigation and exposition of the skeptical philosophy.

175Hankinson (1995) calls these “J-seeming” and “P-seeming” respectively because the doxastic appearance is a judgment (J) whereas the non-doxastic appearance involves a mere presentation (P) of some object having a property (45-46).

176Barnes (1982, 65–67).

Although avowals may not express belief on the part of the skeptic, they still have a communicative function. A reader of the *Outlines* may come to have beliefs about skeptical philosophy even if the skeptic has none, just as the parent of the child may come to have beliefs about the child's mental or physical state from her cries even if the child has no such beliefs. This brings us around again to the meaning of the skeptic's view. If the question of the skeptic's view is about which beliefs the skeptic has, then on the rustic interpretation, the skeptic can have no view. But given that we, as interpreters of Sextus' avowals, can give an account of how things appear to Sextus, we may rightly call this his view even though it involves no beliefs on his part. So, I suggest that, on the rustic interpretation, Sextus can have a view, that is, a collection of his non-doxastic seemings. And there is no reason that these appearances cannot be about *technē*, just as they can be about the skeptical philosophy generally. Interpreting Sextus' view on expertise will simply be a matter of identifying and explaining what defines a skeptically acceptable *technē* based on what Sextus says regarding his own appearances.

On the urbane interpretation, determining whether Sextus can have a view on expertise is more complicated. If the skeptic only has “ordinary everyday” beliefs – as some urbane interpreters contend, then it is difficult to see how the skeptic can have a belief about the *nature* of *technē* that extends beyond uninformative synonyms like “skill” or “know-how” or “practical expertise”. Any complex view about the character of skeptical expertise worthy of serious discussion would seem to run beyond ordinary everyday beliefs.

However, urbane skepticism is best understood, not as permitting beliefs based on

their content, but rather based on the skeptic's attitude toward the beliefs. We come to see this when we look further at Sextus' explanation of those beliefs the skeptic avoids or accepts. After insisting the skeptic does not even hold a dogma when uttering the skeptical sayings like “I determine nothing”, Sextus explains:

For the one who dogmatizes posits as obtaining [*huparchon*] that thing [*pragma*] about which he is said to dogmatize. But the skeptic posits these sayings not as fully [*pantōs*] obtaining. (*PH I* 14)¹⁷⁷

He goes on to say that the sayings are posited not as “obtaining” in the sense that the skeptic also applies the sayings to themselves. So the skeptic not only says “I determine nothing” about the claims in the sciences, but she also says that she does not determine that she determines nothing.¹⁷⁸ Sextus later makes it clear that each of the sayings only applies to the matters the skeptic investigates (see e.g. *PH I* 197 for “I determine nothing”). And if this is so, the sense in which the sayings are not “fully obtaining” is that although the skeptic uses them in particular cases, she does not generalize. She leaves open the possibility that she may determine something in the future.

My translation of *huparchon* in this context is, perhaps, controversial.¹⁷⁹ Annas and Barnes (2000) translate it as “real” which reflects a longstanding philosophical use of *huparchon* to predicate real or actual properties to an object. But it makes the interpretation of this passage difficult because it is unclear what Sextus could mean by suggesting that a saying is “real”.¹⁸⁰ At the same time, one might interpret *huparchon* in a

177ὁ μὲν γὰρ δογματίζων ὡς ὑπάρχον τίθεται τὸ πρᾶγμα ἐκεῖνο ὃ λέγεται δογματίζειν, ὁ δὲ σκεπτικός τὰς φωνὰς τίθησι ταύτας οὐχ ὡς πάντως ὑπαρχούσας· (*PH I* 14)

178Hankinson (1995) discusses the way in which these phrases are like “purgative drugs” which wash themselves out of the patient's system when they expel the bad humors (18). cf. *PH I* 206.

179I follow Hankinson (1995, 18) in this translation.

180Frede (1987) glosses it as “how things *really* are” (186).

veridical sense, in which case Sextus would be saying that the dogmatist claims that his *dogmata* are true whereas the skeptic believes things without thinking them to be true. Those who think that one cannot believe *p* without thereby thinking that *p* is true will deny this interpretation.¹⁸¹ Translating *huparchon* as “obtains” attempts to hold on to the ambiguity of the term in the sense that circumstances can be said to obtain if they are real or exist whereas a proposition obtains if it is true.

So, the passage at *PH* I 14 illustrates what Sextus sees as the difference between the skeptic and the dogmatist. They both posit things (or claims), but they do not mean the same thing when they posit them. The dogmatist claims his doctrine describes how things really are. The skeptic stops short of that insistence. Sextus ends the section by reaffirming this distinction between the two ways of doing philosophy:

But, if the one who dogmatizes posits as obtaining that about which he dogmatizes, but the skeptic utters his sayings as virtually circumscribed by themselves, then the skeptic should not be said to dogmatize in his utterance of them. But greatest point is this: The skeptic says in his utterance of these sayings that which appears [*to phainomenon*] to him and reports how he is affected [*pathos*] in a way free from belief [*adoxastōs*], not strongly affirming [*diabebaioumenos*] anything about the external underlying realities. (*PH* I 15)¹⁸²

So the skeptic does not dogmatize because she does not posit things as obtaining and because she is always prepared to apply her skeptical approach upon itself. But Sextus says that the most important point is that the skeptic just tells us how things seem to her

¹⁸¹Burnyeat (1980) denies that this is the meaning because he does not think that there is any sense of belief that can be separated from truth (49). Frede (1984) develops just this sense of belief in his “The Sceptic's Two Kinds of Assent” (261). For a good discussion of this issue, see Hankinson (1995, 273–292) and Fine (1996, 283–290).

¹⁸²πλὴν ἀλλ' εἰ ὁ δογματίζων τίθησιν ὡς ὑπάρχον τοῦτο ὃ δογματίζει, ὁ δὲ σκεπτικὸς τὰς φωνὰς αὐτοῦ προφέρειται ὡς δυνάμει ὑφ' ἑαυτῶν περιγράφεσθαι, οὐκ ἂν ἐν τῇ προφορᾷ τούτων δογματίζειν λεχθεῖη. τὸ δὲ μέγιστον, ἐν τῇ προφορᾷ τῶν φωνῶν τούτων τὸ ἑαυτῷ φαινόμενον λέγει καὶ τὸ πάθος ἀπαγγέλλει τὸ ἑαυτοῦ ἀδοξάστως, μηδὲν περὶ τῶν ἔξωθεν ὑποκειμένων διαβεβαιούμενος. (*PH* I 15)

and how she feels. It is true that Sextus says the skeptic does this *adoxastōs*, that is, in an unbelieving way; but that does not mean the skeptic is utterly free from everything we would call belief. Sextus immediately follows this term with a participial construction that is probably best interpreted as an expansion of the adverb; when Sextus says the skeptic lives without belief, he means that she in no way strongly affirms anything about the external underlying realities. The verb in this case – *diabebaioō* – means more than simply assent; it has the sense of “confirm” or “maintain strongly”. Sextus has already said that the skeptic assents to the appearances; what she does not do is insist that those appearances reflect the external reality beyond those appearances.

In saying this, Sextus leaves open the possibility that the skeptic has beliefs about her feelings or how she is affected. Since the skeptic does affirm the way things appear and describes her *pathē*, perhaps Sextus even allows the skeptic to have beliefs about her internal states, for example her own thoughts. As we saw in the previous chapter (§1.1), he seems to suggest just this when he discusses whether skeptics can investigate dogmatic philosophy without sacrificing their skepticism. He argues against those who say they cannot:

But if they say that it is not this sort of apprehension, but rather simply thinking [*noēsis*], which is considered to be proper to inquiry, it is not impossible for those who suspend judgment to investigate about the obtaining [*huparxis*] of unclear things. For, I suppose, the skeptic is not prohibited from thinking if it comes about both from passive impressions in accord with what clearly appears to the skeptic, and it does not wholly import the obtaining of the things that are thought. For we think, as they say, not only those things that obtain, but also those things that do not obtain. (*PH* II 10)¹⁸³

183 εἰ δὲ φήσουσι μὴ τοιαύτην κατάληψιν ἡγεῖσθαι ζητήσεως προσήκειν, νόησιν δὲ ἀπλῶς, οὐκ ἔστιν ἀδύνατον [ἐν] τοῖς ἐπέχουσι περὶ τῆς ὑπάρξεως τῶν ἀδήλων ζητεῖν. νοήσεως γὰρ οὐκ ἀπείργεται ὁ σκεπτικός, οἶμαι, ἀπὸ τε τῶν παθητικῶς ὑποπιπτόντων <καὶ> κατ' ἐνάργειαν φαινομένων αὐτῷ γινομένης καὶ μὴ πάντως εἰσαγωγούσης τὴν ὑπαρξιν τῶν νοουμένων· οὐ γὰρ

This passage tells us that the skeptic can think without being said to have any illicit beliefs so long as those thoughts (a) have the right source (they come from passive impressions and report what appears to the skeptic), and (b) do not import or introduce any *huparxis* into the discussion.¹⁸⁴ What sort of “thinking” is this *noēsis*? Is Sextus saying simply that the skeptic can have and use concepts, or does he include beliefs about those concepts as well? Insofar as Sextus intends to block objections to the claim that the skeptic can investigate (which is one of the markers of skepticism, cf. *PH* I 3, 7), it seems that this *noēsis* must include beliefs because Sextus says that what is investigated is the *huparxis* of unclear things [*adela*]. Whether *huparxis* is taken to refer to “reality”, “existence” or “truth”, the thoughts must be claims of some sort. Take as an example, the Stoic claim that an apprehensive impression [*phantasia katalēptikē*] is from something real [*huparchon*]¹⁸⁵ (*M* VII 247). Sextus can investigate the Stoic claim, and investigate whether there are any such impressions. But he does not thereby assume these impressions exist. If Sextus' understanding of the Stoic definition comes from a passive impression which is clear and apparent (i.e. he read it in a book), I see no reason to deny – given what Sextus says – that he believes the claim “Stoics think that an apprehensive impression is from something real.” Moreover, he need not suppose that there are any

μόνον τὰ ὑπάρχοντα νοοῦμεν, ὥς φασιν, ἀλλ' ἤδη καὶ τὰ ἀνύπαρκτα. (*PH* II 10). I follow Annas and Barnes by excluding λόγων after αὐτῷ here.

184Sextus says that they do not “wholly” (πάντως) import *huparxis* into the discussion. I'm not sure what the adverb is meant to communicate here. Perhaps Sextus means to suggest that the skeptics are not concerned about asserting what is real or what obtains although they will not shirk from such a discussion if the dogmatist wants to bring it up.

185In this case, I think that “real” is probably the correct translation since the Stoics would not have thought *kataleptic* impressions could be of statements or claims. Such impressions are of real things or situations in the world. For ancient descriptions on *kataleptic* impressions, see Cicero *Academica* 1.40-1; *DL* VII 46; Sextus *Against the Logicians* (*M* VII) 247-260, 402-410.

Stoics in order to have such a belief. Equally, Sextus may even believe that if he finds an apprehensive impression – in the Stoic sense – then it must be “from something real”. In this way, Sextus allows that the skeptic has all sorts of beliefs about concepts and their inter-relations, as well as beliefs based on her own experiences.

For these reasons, ultimately, I do not find the rustic reading convincing. The skeptic has some beliefs. It is more difficult to spell out exactly what beliefs the skeptic has. As I've pointed out, there are various difficulties because scholars disagree about the proper analysis of belief and the Greeks did not have a single word that corresponds to our “belief”. Still, it seems that Sextus thinks the skeptic has beliefs insofar as she assents to the appearances. Sextus does not himself count this as dogma in the illicit sense, and while we might hesitate to call such assents beliefs, they are mental states that can be evaluated for their truth value (in theory anyway). When Sextus says that honey is sweet, he means that honey appears sweet to him or, using his own tortured formulation (perhaps borrowed from the Cyrenaics), that he is perceptually sweetened (*PH* I 20). Insofar as he assents to the claim “It appears to me that honey is sweet”, he holds a position that can be evaluated for truth (although he will not himself advocate for a criterion by which to evaluate the truth of this claim).¹⁸⁶ With this observation in hand, we can modify the initial question about Sextus' view by awkwardly asking how things

¹⁸⁶These claims will always be (trivially) true as long as the skeptic honestly reports her appearances, but what Sextus tends to emphasize is the way in which such claims are not open to question. Rather, it is the truth of the embedded proposition which the skeptic investigates. In light of what Sextus says at *PH* I 20, one might object to my presentation above by suggesting that the skeptic' appearances are not propositional insofar as Sextus uses an adverbial construction. In this way, his usage echoes the Cyrenaic neologisms, as I mentioned above (see for example, Plutarch's *ad. Col.* 1120D). But Sextus makes it clear elsewhere that Pyrrhonian appearances are not limited to basic perceptual experience in the way that Cyrenaic appearances are; for more on this question, see (O'Keefe 2011). And I simply do not see anyway that Sextus can adverbialize an appearance of the sort expressed by “It seems to me that time exists” (cf. *PH* III 136).

appear to Sextus.

Thus, even on the urbane reading, it turns out that when I ask about Sextus' view, I mean how do things appear to him. Recall, this was the same answer we gave on the rustic reading although, admittedly, the rustic reading does not claim that Sextus' view is held by Sextus himself (as a set of beliefs). Whichever interpretation you favor, if I suggest that Sextus has a particular view, then I mean minimally that he offers us some insight into the way things appear to him. So, the goal of my project is to interpret *Against the Professors* so as to describe how expertise appears to Sextus.¹⁸⁷

It turns out that the agnostic stance of my fundamental question relative to the scope of Sextan skepticism is important for the success of my project. It would be a problem for my position if I depended on an interpretation of the scope of skepticism to answer the question about Sextus' view of expertise. On the one hand, if skeptical *technē* requires *holding* beliefs that the skeptic cannot consistently have, then I cannot attribute to Sextus that view of *technē* at all. If, on the other hand, I give an account of skeptical *technē* that depends on some position regarding the scope of skepticism, then my account will not be convincing to those who take the opposing view. What this means is that I cannot appeal to the scope of skepticism explicitly as justification for my reading of Sextus in *Against the Professors*. If I am to present Sextus' view of expertise, it must be grounded in something else.

To sum up, when I ask “what is Sextus' view of expertise?”, I want to know how

¹⁸⁷One might think that this raises a further worry regarding inconsistency in Sextus' work: We have no reason for supposing that our appearances will be consistent with one another. For example, as Sextus is fond of pointing out, the same tower can appear both round and square (depending on the perspective from which it is viewed) (*PH* I 118). I address this worry in more detail below.

technē appears to Sextus insofar as he accepts some form of *technē* , but rejects others. Even with this clarification, the question of Sextus' view is difficult to answer. Scholars reasonably take Sextus' provisional account of Pyrrhonism in *PH I* as our primary source for his philosophy. Real interpretative difficulty begins when one looks to his other writings in order to draw conclusions about Sextan skepticism. As he tells us near the beginning of the *Outlines*, the skeptic is skilled at arguing on both sides of a position, but she will suspend judgment in either case (*PH I* 8-10); and we see that much of his other writings are not dedicated to presenting his own view so much as presenting and attacking the views of others. Because Sextus uses arguments dialectically, because he often draws on sources to which he is not himself committed, because he is willing to argue on both sides of a given position, it is easy to mistake a conclusion in Sextus' writing for his own.¹⁸⁸ Since much of his work presents the philosophy of others or argues against others' views, we cannot, without good reason, suppose that any claim represents Sextus' own position.

However, even if Sextus suspends judgment, there may be one side that *seems* right to him. Sextus says that the skeptical ability involves opposing arguments to arguments, appearances to appearances and cross-ways, arguments to appearances (*PH I* 9, 31-33). Further, he affirms that the skeptics do not reject the phenomenon even if they argue against it (*PH I* 20). If we can identify which oppositions are appearances as opposed to arguments, then we might take that appearance as an indication of Sextus' view. We can see an example of this in *PH III* 136 where Sextus claims that it appears to

¹⁸⁸I think Burnyeat (1984) is a good example of placing too much weight on things that Sextus says in the dialectical context of *PH III*.

him that time exists, but he then goes on to argue that time does not obtain. I think we can affirm on this basis that it is true that it appears to Sextus that time exists, but he suspends judgment about the question on the basis of the equipolant arguments against time.

Nevertheless he will keep his doctor's appointment next week and he will save for retirement; that is, Sextus will act as if he believes time is real because it appears to him to be real.¹⁸⁹ We cannot assume simply on the basis of the arguments offered which side he might favor. But we can take hints from Sextus on the basis of things he says about how things appear to him even while we admit that he ultimately suspends judgment on this question.

Sextus claims that he lives without beliefs, yet we can attribute a view to him on the basis of his reports about what appears to him. Whether these reports express “beliefs” is not important for my purposes – I’ll avoid such terminology since some take it as necessary that believing that *p* requires thinking that *p* obtains - but it is important that Sextus expresses his view of things, that is, how things seem to him. Determining his view is quite difficult when we consider topics not covered in the first book of the *Outlines*, so we need to be careful about how we interpret his other writings. Or more to the point, to what extent can we take the things Sextus says in *Against the Professors* as a reflection of his view on expertise? In the next section, I turn to this question.

¹⁸⁹An obvious objection here is that Sextus may be using as “appearances” those claims that his audience will find plausible without himself being affected in that way. Of course, it's possible that Sextus could use appearances in such a dialectical way, but in the example above, Sextus' uses the first person plural which perhaps provides some defeasible evidence that he includes himself as one to whom time appears to exist.

2.6. Determining Sextus' View in *Against the Professors*

So far in this chapter, I have argued that *Against the Professors* is a coherent work and that Sextus has a view (about any number of topics). I have not argued that Sextus expresses his view regarding expertise in *Against the Professors*. Of course, little argument is required to show that Sextus expresses *a view* about the topic, since he says many things about experts and expertise in the treatise (*M* I 30-34, 49-56, 60-62, 72-79, 82-84, 179-186, 219, 221, 254-267, 299-300; *M* II 5-43, 48-51, 60-72, 79-87; *M* III 18-21; *M* VI 1; *M* V 86; *M* VI 33). The difficulty comes in determining when Sextus expresses his own view, and when he borrows from other sources or makes dialectical moves merely for argumentative reasons. The rest of this dissertation is dedicated to spelling out exactly what Sextus' view of expertise is.

All the same, I think it is worth taking time to discuss *how* we should determine Sextus' view on this topic. Scholarly methodology for interpreting Sextus is rarely discussed in the secondary literature, and I think this is a lapse because determining Sextus' view on most issues is not trivial. Therefore, in this section, I will present and discuss several guidelines for interpreting Sextus' view; these are rules of thumb that ought to be used in understanding his perspective, especially in *Against the Professors*. Some of them are obviously commonsense, but it is useful to lay them out explicitly in order to discuss the interpretive issues they raise.

I do not claim that these guidelines are exhaustive; there could be other important principles. And I do not argue for them here, beyond claiming that they are reasonable interpretive principles.¹⁹⁰ But I think that they deserve discussion now because I rely on

¹⁹⁰In fact, it will become clear that my guidelines assume a certain interpretative meta-principle. For

them in the work that follows. I also do not claim that these principles must always be followed in interpreting Sextus. Important scholarly work has been done that presents differences among Sextus' writings and tries to understand how those differences potentially reflect Sextus' own philosophical development.¹⁹¹ I do not dispute the value of this work even though it runs afoul of principle (3) below. My project is not an attempt to track Sextus' development, and I think that a full account of Sextus' view of expertise is only possible by drawing on all of his works. So now, let us consider each principle in turn.

(1) Context: Use contextual features of *M* I-VI to differentiate the arguments from other features of the text, like Sextus' editorial comments, which may represent his view.

One implication of the principle of *Context* is that we should focus on Sextus' programmatic remarks. In *Against the Professors*, there are numerous places where Sextus outlines the structure of his arguments, or makes a distinction which will explain his presentation. These usually occur at the beginning and end of a book as well as at certain transitional points in the argumentation. For example, if Sextus says that “*mousikē*” is sometimes used in a loose sense to refer to success in some matter (*M* VI 2), then we should accept that he thinks this a common usage for the term. In contrast, as I

example, I claim that we should try to interpret *Against the Professors* in a way that coheres with the *Outlines*. Obviously, this depends on a rejection of any significant developmental thesis like the ones I discussed in the previous chapter. I hope that my arguments in section 2.3 have made it clear why I think the developmental thesis is unnecessary for understanding the treatise. But that, of course, is not an argument for why the developmental thesis – i.e. that Sextus' view changed significantly between *M* I-VI and the *Outlines* – is false.

¹⁹¹I've already mentioned these, especially in the previous chapter, but see for example, Janáček (1972). Bett (2000) offers a developmental account of ancient Pyrrhonian skepticism from Pyrrho (including both his contemporaries and possible influences) up through Sextus, but he does indicate that Sextus offers distinctly different forms of skepticism in his writings (105-111, esp. 107 n97) Bett (1997) had already developed this thesis more thoroughly in the introduction of his translation of *M* XI (*Against the Ethicists*).

suggested earlier, we must be cautious when we consider what Sextus says in the context of his dialectical argumentation. His view cannot be solely determined by appealing to the arguments since he suspends judgment about whether the conclusions of the arguments are true (or false). The arguments, on their own, are neither evidence for or against Sextus having a particular view. So we cannot conclude, for example, that Sextus thinks music does (or does not) exist on the basis of his arguments.¹⁹²

This is not to say that we cannot learn something about Sextus' view within the context of his argumentation. As I've said before, Sextus often opposes the appearances to arguments, so if we can identify or isolate Sextus' appearances from the argumentation, that would also give us access to his view. Unfortunately, determining Sextus' appearances is not trivial because the same claim could both represent an appearance and also be a claim about which Sextus suspends judgment as far as the arguments go. In other words, we cannot differentiate these claims with respect to their status in Sextus' cognitive life by means of their content alone. We can only know for sure that Sextus is offering us an appearance if he makes it clear in some way. For example, I mentioned earlier that Sextus claims that time appears to exist. He makes similar statements about other cases; for example, motion (*PH* III 64, *M* X 45), increase, and decrease (*PH* III 82) all appear to exist.

¹⁹²As an example, consider Chisholm (1941): He correctly notes that Sextus accepts commemorative signs (*PH* II 102, *M* VIII 156-158), but then says that Sextus “rejected the indicative sign” (372) and held the “doctrine that indicative signs have no reference” (375). It is true that Sextus argues against indicative signs, but he also makes it quite clear that “we will proceed to the refutation in what follows, not being eager to show the non-existence of the indicative sign, but recalling the equally weighted appearance of the offered accounts regarding its existence and non-existence” (*PH* II 103). In other words, Chisholm misreads Sextus, thinking that the conclusion of his arguments represent his position when Sextus is explicit in his programmatic remarks that he intends to suspend judgment on the status of indicative signs.

If we are to determine Sextus' view about expertise, we should look *first* at the programmatic remarks he makes about his subject matter. These remarks help to contextualize the statements and arguments that he offers. We have seen that Sextus begins *Against the Musicians* by spelling out the structure of the book, distinguishing different types arguments, and making it clear that he reports them to provide a balanced account. The other books of *Against the Professors* are no different. In each book, Sextus begins and ends with some programmatic remarks; and as he transitions from one set of arguments to another, he often explains his intent. I view this as my primary source material.

A corollary to the principle of *Context* is that we should give important consideration to Sextus' own first person declarations. If he tells us explicitly how things seem to him, that is strong *prima facie* evidence for his view. And indeed, in certain passages in *Against the Professors*, Sextus explicitly states how things seem to him. He often tells us what he thinks he has done or will do, using the first person (often plural) to describe his appearances and his actions. These statements typically frame and contextualize the arguments that Sextus offers. We will look at *Against the Astrologers* in more detail in the fourth chapter, but a good example of this occurs at *M V 2* where Sextus makes it clear that he thinks the Chaldean astrologers directly attack “our” way of life. Here – and elsewhere – Sextus uses the first person in his programmatic remarks to tell his readers how things seem to him. We've seen in the *Outlines* that Sextus explicitly tells us that he is giving us an account of his own appearances (*PH I 4*). Reports like those in the preface to *Against the Astrologers* should be read similarly. These first person

declarations indicate how Sextus sees the subjects he attacks, so we should consider them significant in determining his view.

On the other hand, at times, there are good reasons to regard Sextus' first person pronouncements critically before accepting them as indicative of his view. Sextus uses the first person to mean Greek society in general. For example, in his account of the tenth mode, he notes that having sex with one's mother is forbidden “among us” [*par' hēmin*] while it is allowed or even encouraged in Persia (*PH* I 152). In this case, the “us” is clearly referring to the cultural customs in the broader society and not necessarily referring to his own view on social norms. Likewise, since Sextus copies from other sources – often in a rather sloppy way – an interpreter must be sensitive to cases where the first person usage may be copied by Sextus from another text. This seems to occur at *M* VII 208 where Sextus is reporting on Epicurus' view of the criterion of truth. There, he uses the first person, but makes a decidedly Epicurean statement, which suggests that perhaps he was copying directly from his source without thinking about his pronoun usage.¹⁹³ So, not every instance of a first person pronoun in Sextus' works indicates his own personal view. This does not mean we cannot rely on *any* of Sextus' first person pronouncements; it simply means that we must be careful, using the *context* to help us determine which of statements most likely report his own view.¹⁹⁴

193He says, “Thus, I would not say that sight is false because from a great distance, the tower looks small and round, but it looks large and square up close; rather I would say that sight is true...” The Greek: οὕτως οὐκ ἂν εἴποιμι ψεύδεσθαι τὴν ὄψιν, ὅτι ἐκ μακροῦ μὲν διαστήματος μικρὸν ὄρα τὸν πύργον καὶ στρογγύλον, ἐκ δὲ τοῦ σύνεγγυς μείζονα καὶ τετράγωνον, ἀλλὰ μᾶλλον ἀληθεύειν (*M* VII 208).

194Another, related lesson we've learned from my discussion of *M* VI is that we must take care if we want to infer that Sextus accepts something on the basis of a first person pronoun use in another context. For example, it is true that Sextus calls his own skepticism “aporetic” (*PH* I 7). But, as I have argued, that does not mean that Sextus associates himself with or favors every argument that he calls “aporetic” in *M* VI. This became clear when we observed that Sextus distinguishes his own approach from both the

So far, I've suggested that we should determine Sextus' view by examining the remarks he makes *about* his arguments (rather than focusing solely on the arguments themselves), paying special attention to his use of the first person. In addition, an interpreter of Sextus must be sensitive to what he is *not* saying as much as what he is saying. This brings us to the second principle:

(2) Holism: Provide an interpretation that makes sense of the work as a whole, paying particular attention to Sextus' decisions regarding what to focus on and what to leave out.

Sextus makes decisions about what to attack, just like any other author. When he focuses on something in particular, he does so at the expense of other topics he is not engaging. Thus, we should try to make sense of the work as a whole, asking and answering questions about its purpose and purview.

Recall that Barnes suggests that the work be understood as a pharmacy, a collection of arguments for the psychic health and healing of the dogmatist.¹⁹⁵ This cannot be correct, or at least, it cannot be the whole story. Sextus makes decisions about which arguments to include and which to exclude. There must be an explanation for these decisions understood in terms of his purpose for the work. For example, while the attack on music might be explained by music's inclusion in the traditional curriculum, that does not explain Sextus' use of two types of refutations. These decisions must be explained, and I think they can be explained in terms of his vision of skeptically acceptable and unacceptable forms of expertise. I have indicated that Sextus considers usefulness an

more dogmatic and the rather aporetic attack on music.

¹⁹⁵Barnes (1988, 76) clarifies that he does not mean to suggest that *Against the Professors* is a "hotch-potch" or that the arguments are only meant as "therapeutic devices". But he does suggest that Sextus conceives of his work as a well organized stock pile of arguments meant to cure dogmatism toward the liberal arts.

important aspect of expertise.¹⁹⁶ The inability of musical science to demonstrate its usefulness decisively is as relevant to its scientific status as its theoretical reliance on certain metaphysical categories, at least as far as Sextus is concerned. These kinds of argumentative decisions can give us some clues regarding what Sextus thinks a legitimate *technē* should provide.

With the first two principles, I've suggested that we should determine Sextus' view by giving an interpretation of the *whole* of *Against the Professors*, especially examining the remarks he makes *about* his arguments (rather than focusing on the arguments themselves), and paying special attention to his statements about himself. So far, these principles focus only on interpreting *M I-VI* itself. But I think we should also look outside that work for other clues about Sextus' view, and this leads to the final principle:

(3) Inter-textual Consistency: Interpret *M I-VI* consistently (if possible) with other works which express Sextus' view – especially *Outlines of Pyrrhonism Book I*.

The programmatic remarks in *M I-VI* should be read against what Sextus says elsewhere regarding Pyrrhonism, especially what he says in his *Outlines*. Now, I admit that it is not initially clear that *M I-VI* can be read consistently with the *Outlines*.¹⁹⁷ Obviously, if his statements in *Against the Professors* cannot be read consistently with the *Outlines*, that

¹⁹⁶I argue for this view in chapter 5.

¹⁹⁷ As I argued in the introductory chapter, some scholars have pointed to a certain disingenuity that they find in Sextus. For example, Annas (1986) accuses Sextus of being disingenuous when he claims to be guided by certain ethical norms (*PH I* 24), yet suspends judgment about those norms (*PH III* 169ff). I pointed out that a similar type of claim could be made about Sextus' approach to education and expertise. He says that the skeptic is guided by the teaching of *technē* (*PH I* 24), but argues against and ultimately suspends judgment about whether anything is taught (*M I* 10-18). Even if these passages can be read together consistently (I think they can), it certainly raises the question of whether Sextus holds a consistent attitude toward teaching and learning.

must admitted. However, there is good reason to suppose that Sextus maintains the same general skeptical outlook in *M I-VI* that he describes in *PH*. As I have already noted, Sextus explains the project of *Against the Professors* by referencing the experience of skeptics who suspended judgment after finding various difficulties and conflicts in philosophy (*M I 6*). If we take his introduction at face value, then we should assume he writes from the same perspective in both works.

On the other hand, if *Against the Professors* itself is essentially incoherent, then it cannot be consistent with the *Outlines* or anything else. In this chapter, I have attempted to argue that the case for incoherence is unconvincing. It does not look like Sextus takes an alternative – e.g. negatively dogmatic – approach to the material in *Against the Musicians*, and I think a similar case can be argued for the other books as well. Thus, it seems most plausible that Sextus writes *Against the Professors* from his familiar “suspensive” skeptical position.

One of the difficulties in understanding the skeptical *technē* is the paucity of source material; Sextus tells us in the *Outlines* that he accepts the teaching of expertise (*PH I 24*), but he does not tell us what that means. If we are going to achieve a coherent understanding of Sextus' view on *technē*, we must read his texts in concert with one another. There simply is not enough material to develop even an outline of Sextus' view on expertise from one of his works alone.

This raises another problem which I mentioned earlier. I propose that I can give an account of Sextus' view on expertise; I can explain how *technē* appears to him. But why should we suppose that his appearances about skill and expertise are consistent with

one another? Sextus himself might remind us that our appearances can be in conflict with each other; much of the work done by the modes of Aenesidemus involves emphasizing conflicting appearances.¹⁹⁸ It remains an open question, then, whether I can provide a *coherent* account of skeptical expertise on the basis of Sextan appearances.¹⁹⁹ However, this is not a problem unique to my topic. Any interpretation of Pyrrhonian skepticism risks failing in this regard. There is nothing particular about expertise that might give conflicting appearances in contrast with other features of the skeptical life. Moreover, while I admit that this is a legitimate worry; I do not believe it to be a more significant problem than any historical interpretation of other philosophical thinkers. As one wise philosopher recently reminded me, even those of us who are dogmatists rarely live up to our own professed epistemic norms; if our work is read by later interpreters, they will no doubt find inconsistencies and inferential failures. The job of the historian of philosophy is to point these out when they crop up, and to provide the most plausible reconstruction of the philosophical position in spite of these failures. The job of the historian of skepticism is no different.

One thing that we must keep in mind when offering an interpretation of Sextus' appearances is the provisionality of his work (and my own by extension). Sextus himself

198Leaving aside the differences in appearances for distinct animal types (the first mode) or for particular humans (the second mode), the third and fourth modes both catalog differences in our own personal appearances. The third mode points out differences between sense modalities (*PH* I 91-99) while the fourth mode recounts differences due to conditions and circumstances (*PH* I 100-117).

199Another way to put the problem is this: Given that appearances can conflict with one another over sense modality or depending on the circumstances, it could very well end up that no unifying account can be given regarding Sextus' appearances. Suppose that in one context it appears (to Sextus) that a *technē* must be useful in order to be acceptable to the skeptic, but in another context an apparently useless form of expertise also appears worthwhile. What can we say as Sextan interpreters beyond simply re-iterating the appearances themselves? Perhaps something can be said; for example, we could explore the difference in the contexts to see if they shed light on why utility is or is not necessary. But we certainly could not say that utility is a required feature in every case for a skeptical *technē*.

notes that he recounts the way things appear to him *now* (*PH* I 4) with no guarantee that they will appear in this same way again tomorrow. Yet, some things remain certain if he maintains his skepticism. We cannot suggest that Sextus has a *theory* regarding expertise and the subjects of study. This is obvious if we take his claim at *PH* I 13 seriously that the skeptic does not dogmatize about scientific knowledge. In this way, we can use the *Outlines* to fill in gaps when matters are not so clear in *M* I-VI.

In conclusion, I intend to offer Sextus' view on expertise to the extent that he provides it in *Against the Professors* by using these interpretative principles. Detailing Sextus' view on anything is no easy task, largely due to the nature of skepticism itself. While we cannot claim that he assents to the conclusions of his arguments, he does explain his view in a number of places – particularly in those passages which spell out what he is attacking and why. We should pay close attention to the texts where Sextus expresses his own thoughts on the matter, keeping in mind the decisions that he makes in what to target. Moreover, we should read such passages against what he says elsewhere, especially in the first book of his *Outlines* where he makes his clearest statement of the Pyrrhonian philosophy. If we read Sextus in this way, we can answer the question “What is Sextus' view on expertise in *Against the Professors*?”

Chapter 3: The Rotten Foundations of Dogmatic Science

In the previous chapter, I took steps toward a defense of the coherence of *Against the Professors*, and I argued that we should interpret this treatise as taking a properly suspensive skeptical perspective in contrast to the varieties of negative dogmatism. That is not to say that Sextus does not spend the majority of the treatise arguing against certain forms of expertise. Up to this point, we have noted that he distinguishes between the dogmatic and aporetic attacks on the arts, and I concluded in the previous chapter that the aporetic attacks particularly seem to focus on the essence, definition, and conceptual presuppositions of a given discipline. In this chapter, I propose to take a deeper look at the way he targets these subjects, focusing especially on *M III, Against the Geometers*.

We can begin by saying that Sextus tends to characterize the Pyrrhonian arguments as an attack on the *archai*, that is the starting points or first principles, of the subjects in question (*M I* 40; *III* 1, 17-18; *IV* 4, 10; *V* 49-50, *VI* 38, 68). It is well known that ancient science was foundationalist in its approach; the Pyrrhonian attack on *archai* often aims at these foundations of dogmatic science. I define foundationalism as the view that a science has a set of non-inferentially known principles from which all other knowledge in that science is inferentially derived. In this sense, then, Pyrrhonists were anti-foundationalists; that is, they attack and refuse to believe the dogmatic first principles. Such a claim is unsurprising. If the skeptics suspend judgment regarding all scientific claims, then they also suspend judgment about the foundational claims. The

more interesting questions are methodological and comparative. How and why were skeptics anti-foundationalists? After all, our modern empirical science is not foundationalist in the sense given above. We might ask how the skeptics conceived of investigation in contrast to our own view. Similarly, a strong modal negative dogmatist will also be a anti-foundationalist if he claims that all such foundations are unknowable. So the goal of this chapter is to characterize the way in which the Pyrrhonian skeptic is anti-foundationalist, as a first step toward understanding what kind of expertise a skeptic could learn and practice.

I claim that we can understand skeptical anti-foundationalism by looking at the skeptical approach to investigation (*zētēsis*). One of the central difficulties in understanding Pyrrhonian skepticism is how their commitment to continual investigation (*PH* I 1-3) can cohere with their ability to generate equally weighted oppositions that lead to the suspension of judgment (*PH* I 8-10). Insofar as science requires active inquiry, the oppositional – even arresting – character of skepticism suggests, as some scholars have indeed argued, that Sextus misleads us insofar as he claims that the skeptics continue to inquire.²⁰⁰

In what follows, I plan to explain how the skeptics can both continually inquire and suspend judgment about the foundations of dogmatic science. I will do this by

²⁰⁰Sedley (1983) claims that the Pyrrhonians began inquiring for the truth, but when they discovered that they could achieve *ataraxia* through *epochē*, they ceased looking for the truth, in a certain sense. Palmer (2000) argues similarly that Sextus does not search for the truth. Perin (2006) claims that this view is mistaken because the skeptic is committed to search for the truth. I think that Perin's way of putting it is misleading because Sextus claims that the skeptics search for whether there is any such thing as truth. We ought not say that the skeptics search for the truth of whether there is any truth since if there is no truth, then they won't be searching for the truth about that. Instead, I think the skeptic searches for what can be said on behalf of the view that there is truth and also on behalf of the view that there is no truth. But the skeptic suspends judgment on this question, not believing one way or the other. See also, Perin (2010) for an expanded account of his view, especially in chapter 1.

examining the relationship between the skeptical critique of hypothesis in *Against the Geometers* and what I take to be the undermining methodology of the five modes of Agrippa, which Sextus describes in his *Outlines* (PH I 164-177). In the first part of this chapter, I will briefly introduce *Against the Geometers* where I argue that much of what Sextus says is directed, not at their first principles, their axioms and postulates, but rather at their conceptual presuppositions. I also note the way in which several commentators connect the arguments at the beginning of the book with the modes of Agrippa which are presented in Sextus' *Outlines of Pyrrhonism*. This will lead me to present my interpretation of the five modes; I argue that the skeptical method of investigation undermines attempts to ground scientific knowledge in foundational claims. I will then relate my interpretation to the kinds of foundationalism that we find in ancient philosophy of science. In particular, I will look at the role that hypothesis played, both in the works of Plato and Aristotle, and also in ancient geometry and astronomy. This will lead back to *M* III, and I will end the chapter by arguing that Sextus means to undermine, not only the foundational claims and presuppositions of geometry, but also its methodology that presumes to give us access to truths about the nature of the physical world. This argumentative strategy has the effect of rendering the geometric claims no more than conceptual relationships. They may well be true, as far as anyone knows, but we cannot be sure one way or the other since geometric methodology cannot establish them. The skeptical investigator, then, suspends judgment *and* keeps looking for a sound method upon which to found geometry.

3.1 Against the Geometers (M III)

The third book of *Against the Professors* takes aim at the geometers. There are several strange things that scholars have noted about how the third book and fourth book, which attacks the arithmeticians, fit into the larger treatise. When Sextus ends his attack on the orators (M II), he says, “So, after having also spoken against the combined theorems of rhetoric, let us, from another starting point, touch on the difficulties raised against the geometers and arithmeticians” (M II 113).²⁰¹ Each book in *Against the Professors*, except *Against the Geometers*, ends with a closing statement like this one. The third book ends without any kind of transitional or programmatic remarks to indicate that the book is complete. In addition, both M II 113 and the final sentence of book IV indicate that Sextus treats geometry and arithmetic together.²⁰² These points combined with the fact that book IV is the shortest book (only 34 sections) gives us some reason to think that the Sextus probably wrote books III and IV as a single unit, which was later separated by an editor. Of course, none of this means that Sextus thinks geometry and arithmetic are the same subject; he clearly differentiates between the two.²⁰³

Books III and IV are also a unique pair because they both begin without any

201 Ἀλλὰ γὰρ καὶ πρὸς τὰ συνέχοντα θεωρήματα τῆς ῥητορικῆς ἀντειπόντες ἀπ' ἄλλης ἀρχῆς καὶ τῶν πρὸς τοὺς γεωμέτρους καὶ ἀριθμητικούς ἀποριῶν ἀπτώμεθα. (M II 113)

202 Sextus ends M IV 34 by saying, “From which, having aporetically gone through even this much against geometers and arithmeticians, let us, from another starting point, produce the refutations against the astrologers”. The Greek: ὅθεν τοσαῦτα καὶ πρὸς τοὺς γεωμέτρους καὶ ἀριθμητικούς ἀπορητικῶς διεξελθόντες ἀπ' ἄλλης ἀρχῆς καὶ τὴν πρὸς τοὺς μαθηματικούς ἀντίρρησιν ποιησόμεθα.

203 Dye and Vitrac (2009, 165) point to the clear transition at M IV 1 where Sextus differentiates between geometry and arithmetic on the basis that the former deals with quantity in continuous bodies whereas the latter deals with discrete quantity. Even so, if books III and IV were originally a single unit, that fact might be relevant to how Sextus saw the relationship between the subjects of geometry and arithmetic and their place in the broader education curriculum. Moreover, while he does distinguish them, it is clear that he thinks the both fall under the study of quantity. They are the same type of discipline; they are simply distinguished by the kind of quantity they study.

discussion about the ambiguity of the meaning of the terms which name their respective disciplines. In every other book in *Against the Professors*, Sextus discusses the boundaries of the discipline and makes distinctions which limit the scope of his attack. As we've already seen, he distinguishes between three senses of the term "music" and specifies that he only means to attack music that is understood as a science (*epistēmē*) (*M* VI 1-3). We'll see in the next chapter that he also distinguishes between three senses of the term astrology (*astrologia*) and that he picks out and attacks the one that uses nativities to make predictions about individual lives (*M* V 1-2). In the first book, *Against the Grammarians*, Sextus devotes an entire chapter to the types of grammar and why he will attack the one he does (*M* I 44-54). For rhetoric (*M* II), Sextus does not so much distinguish types of rhetoric as examine different definitions of rhetoric. Still, he seems to claim that one can speak persuasively without having been taught the "art of rhetoric" (*M* II 16) and he argues that knowing the "art of rhetoric" is neither necessary nor sufficient for speaking well (*M* II 17-18). Thus, only the subjects of geometry and arithmetic seem to draw Sextus' unequivocal critique. Every other discipline appears to have a skeptically acceptable form that mirrors the problematic subject. In contrast, Sextus' discussion of geometry and arithmetic gives the impression that their highly theoretical nature precludes the possibility of any skeptically acceptable construal of these subjects.

While Sextus does not begin *Against the Geometers* with a discussion about the types of geometry, still the book's structure is relatively clear. He introduces his refutation by saying that, since so many of the geometric principles rely on the hypothetical method,

he had best start by attacking hypothesis (*M* III 1).²⁰⁴ He immediately cites the fact that Timon assumed that one ought to investigate the hypothetical method first or as Sextus puts it, the question of whether we should accept anything from hypothesis (*M* III 2).²⁰⁵ The attack on hypothesis begins with a paragraph differentiating the uses of the term (*M* III 3-5), and Sextus makes it clear that he wants to focus on the geometric sense (*M* III 6) where hypothesis means the “postulating of something in order to prove something else” or simply “the starting point [*archē*] of demonstrations” (*M* III 4). There follows the attack on hypothesis (*M* III 7-18), which I will look at in detail later in this chapter.

As he transitions from these arguments, Sextus says that he has shown that the geometers ought not assume their starting points (*archai*) from hypothesis, but for good measure he will show that they are false anyway (*M* III 18), focusing on their fundamental principles, namely the point, the line, and the surface (*M* III 19-21).²⁰⁶ The attack on the point or *stigmē* occupies *M* III 22-28. The attack on the line or *grammē* extends from section 29 through 59.²⁰⁷ The discussion of body (*soma*) or plane

204As Dye and Vitrac (2009, 166) point out, the fact that Sextus begins with hypothesis in Book III fits well with his discussion of demonstration (*apodeixis*) at the end of Book II (106-112). Sextus seems to have had a collection of arguments focused around demonstration which included an attack on starting demonstrations with hypotheses. Several of the arguments at the end of *Against the Rhetoricians* and those at the beginning of *Against the Geometers* are repeated in *Against the Logicians* (*M* VIII 300-481). For the attack on hypothesis in particular, see *M* VIII 367-378.

205Dye and Vitrac (2009, 190) claim that this indicates a longstanding debate on the role of geometric modeling in natural science and philosophy. I'm not sure we can conclude any more than that early Pyrrhonians were concerned with the role that hypotheses played in natural philosophy; it certainly is not clear that Timon was explicitly concerned with geometry.

206Mueller (1982) gives a good over view of these arguments. He distinguishes direct attacks on the conceptual starting points from relational attacks. Relational attacks are those which concern relations between different dimensional objects (e.g. between points and lines). Direct attacks are simply non-relational.

207Mueller (1982, 78-81) provides some of the philosophical backdrop for the arguments against the line which largely involve whether or not the line can be conceived. Sextus lays out a theory regarding the ways in which we conceive of an object (at *M* III 40, for example) that seem to come from Epicurus (cf. DL X 32) or from Stoic sources (cf. DL VII 52-3). Mueller concludes that “The basis of Sextus’ criticisms of the concept of line is relatively clear. He takes over certain empiricist notions of

(*epiphaneia*) is laid out at *M* III 60-64. At *M* III 65, Sextus claims that he has completed the discussion of the *archai* of the geometers, and he proposes to show that geometric investigation cannot proceed even if their own hypotheses are granted. He then attacks the notion that the rotation of a straight line describes a circle, the proof of which could be described as a *reductio* of the definition of a line as length without breadth (*M* III 65-73). A similar result (that there can be no length without breadth) follows from considering whether a square measures a plane bound by parallel lines (*M* III 74) and whether a cylinder touches a plane on a line and measures out a plane when rolled (*M* III 75-76). Granting the assumption that a line is length without breadth, he attacks the notion of limits (*M* III 77-82).²⁰⁸ Then, he attacks body again (*M* III 83-91). Sextus sums up his position at 92, saying that since the *archai* of geometry lack reality (*anhupostasis*), none of the geometric theorems can stand.

In the next section (*M* III 93-107), Sextus attacks what Mueller calls “derived notions.”²⁰⁹ These are geometric concepts that add something to a fundamental concept; the straight line becomes a target instead of simply the line. Sextus begins by saying that he will turn from the geometric starting places to look at several geometric theorems (93), but instead, he spends several sections (94-99) arguing against the definition that “a straight line is that which is placed equally to its own parts.”²¹⁰ The argument at *M* III 100-106 raises problems with the notion of an angle, and the definition for a circle is attacked at *M* III 107. Here again, Sextus' strategy for undermining geometry is to show

conceivability and uses them to argue that we cannot conceive anything breadthless” (81).

208See Delattre (2006) on this section for a discussion about how Sextus uses empirical considerations regarding fluids in a container to communicate his point.

209Mueller (1982, 72).

210εὐθεῖαν εἶναι γραμμὴν τὴν ἐξ ἴσου τοῖς ἑαυτῆς μέρεσι κειμένην. (*M* III 94)

that the concepts of the discipline are inconceivable.

Finally, at *M* III 108, Sextus makes good on the promise of 93, and turns to consider some geometric theorems. For most of the remainder of the book, he considers the problem of how to bisect a given line (109-115). The book ends with Sextus citing himself for why subtraction is not possible (116). Although *M* III ends without any transitional remarks, as I mentioned before, book IV begins with Sextus' characterization of geometry as distinct from arithmetic.²¹¹

From this brief overview of *Against the Geometers*, we can see that the main strategy of Sextus' attack on geometry is to argue that its fundamental concepts – which he calls *archai* – are inconceivable or that the definitions for these concepts are incoherent.²¹² Several scholars, looking at the geometric sources for Sextus' attack, have pointed out that while Sextus attacks the definitions of the point, line and plane, these definitions do not appear in any of Euclid's proofs.²¹³ This means that it is a mistake to view Sextus' arguments against geometry as a direct attack on the foundations of geometry in the sense that I defined foundationalism earlier. When Sextus says he will

211Book IV mainly focuses on Pythagorean and Platonic number theory. Sextus spends the first several sections briefly explaining details of the Pythagorean number theory (*M* IV 2-9). As he transitions, Sextus says that he will argue against the existence of the monad and thereby destroy number (10). But then he begins talking about the Platonic theory of participation (11-13). He proceeds to argue against the notion that a single object is numbered by participating in the One (14-17). This argument is extended to the other numbers (18). Another argument against participation is given immediately (18-20). He argues against the dyad (21-22), and then argues against subtraction (23-30). Similar arguments are given against addition (30-33). Sextus finishes the book by claiming that number is nothing and that he has argued against the geometers and arithmeticians.

212Mueller (1982) suggests that attack of inconceivability is part of the “radical transformation of Platonic-Aristotelian conception of mathematics” from the idea that mathematical objects are real (and geometry is an attempt to discover the truth) to the idea that mathematical objects are mental constructs (71).

213Mueller (1982, 73) makes this point. He notes that since the point, line and plane are primitive terms, there is no need to use their definitions in the geometric proofs; indeed, it is a “waste of time” even to define these terms. Still, Mueller claims that Sextus is operating with a tradition that was aware of the problematic character of Euclid's definitions. He places Sextus in this tradition of “foundational criticism.” Dye and Vitrac (2009) claim that Sextus does not intend to attack Euclid at all.

attack the geometric *archai*, he does not intend to attack their axioms and postulates as such. Rather than attacking the foundational claims that geometers make, Sextus attacks their fundamental concepts. And while the definitions for point, line and plane do not appear in geometric proofs, the concepts certainly do. Thus, Sextus's skeptical strategy in *M III* is similar to that which I noted in my previous chapter where Sextus attacks music theory by undermining its presuppositions, the existence of time and sound. Similarly, in *Against the Geometers*, Sextus' main strategy is not to argue that the geometric premises and conclusions are false (although he does this too), but to argue that we cannot make sense of the concepts used in those demonstrations. The specific *archai* are not geometric claims, but rather those things about which geometric claims are made.

Without grasping what Sextus means by geometric *archai*, it is difficult to understand the structure of *M III*. What is the relationship between the arguments against hypothesis (*M III* 7-18) and the arguments that follow against the principles of geometry? Jonathan Barnes has argued that, when Sextus attacks hypothesis at the beginning of *M III*, he uses the term “hypothesis” as a synonym for *archē* understood as a first principle of a science.²¹⁴ If Barnes is right, then the relationship between the two parts of *Against the Geometers* could be described as a “generic” vs. a “specific” attack. That is, Sextus attacks *all archai* in the opening section of the book, and then he follows it with a specific attack on the actual *archai* of the geometers. One reason to think that Barnes is mistaken here is that, while the hypotheses that Sextus attacks at *M III* 7-18 are premises

²¹⁴Barnes (1990, 93, 95). I should note here that Barnes' purpose in *The Toils of Scepticism* is to understand the Modes of Agrippa, so he is not himself concerned with the structural relationship among the different parts of *Against the Geometers*.

(Sextus talks about what follows from them at *M* III 10-17), the *archai* of the geometers that he attacks in the second part of the book are *not* the premises of geometric demonstrations. They are the conceptual elements of the science rather than its foundational claims. If I am right, then the book is not divided between a “generic” and “specific” attack on geometric first principles.

Regardless of the relationship between these two sections, it is relatively clear that the arguments against hypothesis served a more general purpose in the history of skepticism. Most of the scholarship written about *M* III 7-18 has focused on the role that these arguments play in the modes of Agrippa,²¹⁵ and this is not without reason, as several of the arguments in *Against the Geometers* also appear in Sextus' account of the modes in his *Outlines* (i.e. *M* III 7-10 is found at *PH* I 173 and *M* III 14-15 is found at *PH* I 174). So it seems that if we are to understand the opening of *Against the Geometers*, we must first understand the Agrippan modes.

3.2 The Modes of Agrippa

Ancient skeptics used a variety of arguments and argumentative techniques to induce the suspension of judgment, both in themselves and, so they hoped, in their dogmatic interlocutors. They organized and codified these into so-called “modes” [*tropoi*], the most famous of which are the ten modes of Aenesidemus and the five modes, sometimes called the Modes of Agrippa.²¹⁶ In this section, I will argue that the five modes

²¹⁵Barnes (1990) has presented the most thorough account, but see also Dye and Vitrac (2009, 189–199), Morison (forthcoming), Hankinson (1995a, 70–72, 189–192), and Thorsrud (2009, 153–156).

²¹⁶Diogenes Laertius (IX 88-89) attributes the five modes to Agrippa. Sextus leaves the author unnamed,

were meant as a practical skeptical guidebook. They provide basic steps that will allow you to suspend judgment on any matter. As a result, the five modes give us a picture of skeptical practice that illustrates how the skeptic can investigate any subject while at the same time suspending judgment.

The Agrippan modes are most clearly described by Sextus in his *Outlines*; the five modes are the mode of disagreement, the mode of infinite regress, the mode of relativity, the hypothetical mode, and the reciprocal mode. Sextus actually calls them the five modes of *epochē* (PH I 164); recall that he defines *epochē* as a “stand-still of thought or intellect because of which we neither deny nor posit anything” (PH I 10).²¹⁷ Suspension of thought comes about as a result of the equal weight in matters (*pragmata*) and arguments (*logoi*), where “equal weight” is defined in terms of credibility (*pistis*) or lack thereof (*apistia*).²¹⁸ So the skeptic has an ability to bring forward conflicting accounts on any question, where those conflicting accounts are matched in terms of credibility.²¹⁹

The Modes of Agrippa are sometimes said to be an “all-embracing sceptical

saying that these modes were passed down by “more recent skeptics” (PH I 164).

217ἔποχή δέ ἐστι στάσις διανοίας δι' ἣν οὔτε αἵρομέν τι οὔτε τίθεμεν. (PH I 10)

218Sextus says that by “equal weight” he means “equality with respect to credence [*pistis*] or non-credence [*apistia*] so that none of the conflicting accounts is set out as more credible than another” Here is the Greek: ἰσοσθένειαν δὲ λέγομεν τὴν κατὰ πίστιν καὶ ἀπιστίαν ἰσότητα, ὥς μηδὲνα μηδενὸς προκεῖσθαι τῶν μαχομένων λόγων ὥς πιστότερον. (PH I 10)

219Sextus makes it clear that the different support for either side of an opposition will not necessarily be equivalent, so the equality involved should not be spelled out in terms of the type of support or in terms of the formal features of the support. That is, Sextus does not think that the skeptic will oppose an argument to another argument in every case. In some cases, the oppositions will be among thoughts [*nooumena*], in other cases they will be among “appearances” [*phainomena*]. Sextus says that the skeptic will sometimes even oppose thoughts to appearances [*enallax*] (PH I 9). He explains how these oppositions work when he introduces the modes in general. He says that skeptics oppose appearances to appearances when, for example, they say that “the same tower appears round from far off, but square from up close” (PH I 32). They oppose thought to thought when they argue against the establishment of the existence of providence on the basis of order in the universe by pointing out that often good people suffer while the evil prosper. (PH I 32). And they oppose thought to appearance, for example, when they oppose to the appearance that “snow is white”, the argument that snow is frozen water, and water is dark, so snow is dark (PH I 33).

strategy”²²⁰ which provides a, “perhaps insurmountable, challenge”²²¹ to rational belief.²²²

Sextus quite clearly thinks that the modes can be applied to any subject of inquiry (*PH* I 169); that is, they are content independent. While I agree that the modes represent a general strategy for the skeptic, I argue that they are not themselves arguments or even forms of arguments as some would have it; they are not meant to advocate for any conclusion.²²³ Rather, the modes should be interpreted pragmatically. By a “pragmatic” interpretation, I mean that the modes are instructions for *what to do* dialectically in order to produce *epochē*. They generate suspension within the dialectic by raising a question about the support or grounds for some claim. By “dialectic”, I mean that the modes provide possible argumentative “moves” (questions and responses) that the skeptic can make in the midst of a discussion as she investigates.²²⁴ For each answer that an interlocutor gives, the modes provide the skeptic a way to shift the discussion to the

220Hankinson (1995a, 182).

221Thorsrud (2009, 147).

222Although scholars describe the modes as an all-embracing strategy, they typically fail to explain why Sextus thinks all five modes can work together as a system. Barnes (1990) focuses on how hypothesis, reciprocity and regress work together. He adds to these disagreement, but he leaves relativity aside completely. Similarly, Hankinson (1995a, 191) says that relativity “does no particular work when Sextus develops his strategy for the combined deployment of the Modes...” (185). Morison (forthcoming) focuses on how each mode works on its own, but does not explain how or why Sextus thinks they work together. Thorsrud (2009, 149–151), who probably does the best job of fitting all of the modes into a single system, treats relativity as a type of dispute and so does not differentiate between them. It should be granted that Sextus' own example of the systematic combination of all five modes (*PH* I 170–177) is convoluted. Still, I take it as a necessary condition that an adequate interpretation of the five modes will explain how they all work together.

223Other scholars tend to interpret the modes as arguments or argument templates that the skeptic uses to challenge our beliefs or the justification for our beliefs. Barnes (1990) tends to call the Agrippan Modes “argument forms” or “Agrippan forms” (ix, 114). Thorsrud (2009) also says they are argument forms (147). Hankinson (1995a) says that “the later Modes are presented as arguments for a conclusion” (192). Morison (forthcoming) calls the modes “devices for generating counterarguments with the same force as the dogmatic argument...” (32). Note that page numbers to Morison's forthcoming article refer to the author's manuscript which he has kindly provided me.

224I do not mean to imply that the modes require the skeptic to have an interlocutor apart from herself. I take it as an important constraint on any interpretation that the skeptic use the modes to generate *epochē* in herself.

grounds for the current question. By shifting the discussion from what is at stake to what supports what is at stake, the skeptic generates *epochē* by placing the current question on hold until the question about the support can be resolved. Since the last question can always be pushed back further as long as the dogmatist wishes to continue the discussion, the original question is never resolved, and suspension of judgment follows.²²⁵ Since the modes are practical steps, anyone who applies the steps correctly will also be able to generate the skeptical suspension, whether she be skeptic or dogmatist. Previous interpretations do not take this thoroughly practical angle.

Scholars have offered two general types of interpretations of the modes. I will call the interpretation first offered by Jonathan Barnes in his *Toils of Scepticism* the “gladiatorial” view because it sees the modes as primarily working to catch the dogmatist in “the skeptic’s net” by blocking each argumentative move with some objection.²²⁶ Barnes argues that the modes operate in two steps. If a dogmatist makes a particular claim, the skeptic, first, offers an opposing viewpoint. This (the mode of disagreement) creates the need for support; the dogmatist must argue for his position or admit that his position is unsupported. According the gladiatorial view, the dogmatist will argue for his

²²⁵I should emphasize that other interpreters often talk about how the modes operate dialectically, but I take it that they mean something different than I do by the term dialectical. For example, when Hankinson (1995a) says that the skeptic’s argument can be interpreted dialectically (192), he means that that skeptic assumes the dogmatic norms of rationality for the purposes of the discussion in order to induce *epochē* in the dogmatist without thereby being committed to those norms herself. I think that this interpretation leads to a problem, namely that the modes are useless for generating *epochē* in the skeptic who has already suspended judgment about dogmatic rational norms. I will discuss this further below, but for now, I’ll just add that on my view, the Agrippan modes are not arguments, but dialectical moves that are meant to push the question of justification back indefinitely.

²²⁶Barnes (1990) makes it clear that that he is using a gladiatorial analogy, saying that the modes were used as a net “in which skeptical gladiators thought they could entangle their Dogmatic opponents” (113). Hankinson largely follows Barnes’ interpretation in ch. 10 of *The Sceptics* (1995a). Harald Thorsrud also follows Barnes in the first part of chapter 8 of his *Ancient Scepticism* (2009), although, at times, he seems to suggest something like a pragmatic reading himself (cf. 149-150).

position by either using an infinitely regressive argument, a circular argument, or an argument that begins from some unsupported assertion (hypothesis). Depending on which way the dogmatist proceeds, the skeptic will use one of the so-called “formal” modes (infinitely regressive, reciprocal or hypothetical modes respectively) to object to the dogmatist's argument. The dogmatist will realize that the mode “blocks” his attempt at support. Since, according to Barnes, these formal modes represent every possible way that the dogmatist can argue for a position, the ultimate result is that the dogmatist ought to suspend judgment on his original position.²²⁷

A more recent interpretation by Benjamin Morison offers, in contrast, what I will call the “oppositional” interpretation of the modes. Each mode, Morison says, helps the skeptic generate an argument that opposes any dogmatic argument, thereby creating the conditions for the suspension of judgment. For example, if a dogmatist argues from authority that “Epicurus tells us that p”, then the skeptic will use the mode of disagreement to generate an “epistemologically equivalent” argument, e.g. “But, the Stoics tell us that q” (where q is a claim contrary to p).²²⁸ Since the opposing arguments are “equally weighted” in the sense that they are both arguments from authority, the skeptic will have provided the conditions for *epochē*. Similarly, if the dogmatist offers a circular argument in support of a position, the reciprocal mode will help the skeptic generate an equivalent circular argument, the conclusion of which opposes the dogmatist's.²²⁹ Thus, on the oppositional interpretation, the modes are opposition

227Barnes (1990, 114–115) describes the general system of the modes concisely in a form similar to my description above. He then goes on to explore possible responses on behalf of the dogmatist before ultimately concluding that the dogmatist cannot escape the skeptic's net (144).

228Morison (forthcoming, 14,15).

229Morison (forthcoming, 30).

generators; they generate arguments that match dogmatic arguments in terms of force, while opposing the dogmatic conclusions. On the oppositional view, there is no systematic link between the modes except insofar as the set of them exhaust the argumentative options for the dogmatist.²³⁰

Now Morison has, correctly in my view, pointed out that an adequate interpretation of the modes ought not to attribute any beliefs to the skeptic about which she should suspend judgment. In particular, and regardless of one's view on the scope of skepticism, the skeptic ought not have any beliefs about what constitutes a sound argument. If the skeptic believes that the dogmatist's argument is a bad one in virtue of the argument form, then it looks like the skeptic has a dogmatic belief of her own.²³¹ But this presents a problem for the gladiatorial interpretation insofar as Barnes thinks the skeptic uses the modes to raise objections to certain dogmatic arguments.²³² If the skeptic believes that the arguments are bad arguments, then it looks like she has assented to a dogmatic claim about which she ought to suspend judgment. Hankinson avoids this

²³⁰I can only infer this last claim from what Morison says, since he simply does not discuss the modes as a system. He talks about them as the “codification of one part” the skeptic's “ability to come up with equal and opposing arguments for any proposition whatsoever” (33), but each mode is only used to oppose a single type of argument. So the modes represent a system only if they represent every possible way that the dogmatic could argue. Otherwise, they would be simply an ad hoc group of opposition generators given that the dogmatist might argue in way not represented by the modes. And, in fact, that is what they must be since Sextus claims that the oppositions which the skeptical ability generates involves both *appearances* and thoughts (*PH* I 8-9, 31-33). So, the skeptics need other modes to generate oppositions among appearances.

²³¹Morison (forthcoming, 24). Morison also claims that the modes ought not be viewed as providing undercutting considerations because such argumentative moves cannot provide the opposition necessary to generate *epochē* (21-24). I am less convinced by this point. I agree that an undercutting consideration cannot *on its own* provide the opposition necessary for *epochē*. But given that the modes are meant to work together, it may be that by undercutting the reasons for believing *p*, the skeptic manages to balance the considerations in favor of *p* with those in favor of a contrary, but less intuitively plausible, *p**. The result is an equal weight in the considerations for and against *p* and *p** which will result in *epochē*.

²³²Barnes (1990) speaks about the modes “forbidding”, “prohibiting”, “outlawing” or “blocking” certain argumentative moves (114, 115, 116, 118).

problem by pointing out that the modes can be interpreted dialectically:

Sceptics do not endorse the logic by which *epochē* is induced, since they doubt its validity... As the Sceptic commits himself to nothing, he is not vulnerable to charges of operational self-refutation. Rather it is the Dogmatist who, according to his own canons, is being forced to concede that *epochē* is the only rational solution. After arriving there he will, no doubt, cease to think of it as being rational, since the notion of rationality itself will have lost its grip on him, and his canons will have been abandoned. But then as a Sceptic, and already suspending judgement, he will have no further need of it.²³³

On Hankinson's view, the modes operate under the rational norms that the dogmatist owns, and they cause the dogmatist to suspend judgment. But the skeptic herself does not affirm those norms which means that the Agrippan modes, on this interpretation, cannot be used by the skeptic to cause herself to suspend judgment. And this seems a strange result. Why should the modes not be used by the skeptic to suspend judgment? After all, the skeptic – as Sextus describes her – does not magically achieve *epochē* about everything all at once. Rather, she investigates, and as she is looking into what can be said in favor of various positions, she realizes that neither seems more credible than the other. Thus, it seems important that the five modes be useful and effective for generating *epochē* in both dogmatist and skeptic alike. The problem with the Barnes' gladiatorial view can be expressed as a dilemma: It either commits the skeptic to beliefs that she ought not have as a skeptic, or else the modes are not effective for producing *epochē* in the skeptic.²³⁴

To sum up the preceding discussion, there are roughly four goals that an adequate

²³³Hankinson (1995a, 192).

²³⁴Morison (forthcoming, 20–24) quite rightly points out that on Barnes' interpretation, the skeptic is committed to dogmatic beliefs about whether certain argument types are good or bad, but as I have argued above, Hankinson shows us that the gladiatorial view need not be saddled with such an obvious objection.

interpretation of the Agrippan modes should accomplish (assuming that Sextus consistently describes and uses them). The interpretation should explain why *all* of the modes work together in a system (*PH* I 170-177) and why they are able to handle any line of inquiry (*PH* I 169). It must not commit skeptics to dogmatic philosophical beliefs (*PH* I 13), and it should explain why the modes are able to generate *epochē* in dogmatists and skeptics alike. Given this brief overview of what I consider to be the appropriate desiderata for an interpretation of the modes, let us now consider what Sextus has to say about them.

Sextus introduces the five modes like this: “The more recent skeptics transmitted the following five modes of suspension, first, the mode from disagreement, second, the mode throwing back to infinity, third, the mode of relativity, fourth, the hypothetical mode, fifth, the reciprocal mode” (*PH* I 164).²³⁵ He, then, provides a brief description of each one before he describes how they work together. I will follow his lead and discuss each mode individually before explaining how they all work together.

3.2.1 Disagreement

Sextus says that the mode of disagreement is “that according to which we discover an undecided [or undecidable]²³⁶ dispute concerning the proposed matter coming

235οἱ δὲ νεώτεροι σκεπτικοὶ παραδιδόασιν τρόπους τῆς ἐποχῆς πέντε τούσδε, πρῶτον τὸν ἀπὸ τῆς διαφωνίας, δεύτερον τὸν εἰς ἄπειρον ἐκβάλλοντα, τρίτον τὸν ἀπὸ τοῦ πρὸς τι, τέταρτον τὸν ὑποθετικόν, πέμπτον τὸν διάλληλον. (*PH* I 164)

236The word ἀνεπίκριτον has a modal *-ton* ending which is ambiguous in Greek. It can mean “undecidable”, but it can also mean simply “not decided”. Most scholars point out that a skeptic should not claim that a dispute is undecidable in any absolute sense because that would involve assent to a philosophical claim. But the skeptic can think “I am not currently able to decide this question”, so the dispute could be undecidable in that sense. See Barnes (1990, 17–20); Hankinson (1995a, 183); Thorsrud (2009, 148).

about in *Life*²³⁷ or among the philosophers because of which, since we are unable to select or reject something, we stop at suspension of judgment” (*PH* I 165).²³⁸ Given the role that opposition plays in creating *epochē*, as described above, it seems that the first of the five modes is meant to introduce the opposition necessary for the suspension of judgment. Barnes has rightly pointed out that disagreement may take different forms. Each party in the disagreement may offer differing incompatible answers to a given question, for example, regarding the fundamental elements of the universe; alternately, one party may offer an answer while the other simply denies that position without holding any positive view.²³⁹ Granted, there need not be any disagreement for me to suspend judgment on a given question. I suspend judgment about the parity of the stars in the universe (that is, whether they are even or odd), but surely no one disagrees about this question. Still, if I

237Note that I will capitalize and italicize the word '*Life*' when I use it to translate the Greek word *bios* in Sextus. The word '*bios*' means 'life', not in the sense of merely being alive, but in the sense of living a human life. It can also refer to a manner of living. My reason for drawing attention to the term by capitalizing it is two-fold. First, Sextus uses *bios* as a technical term and often contrasts *bios* with a dogmatic way of living. Many translators try to capture this technical sense by translating the term as “ordinary life” or “everyday life”. But it is not at all clear what the terms “ordinary” and “everyday” pick out. I find such translations highly misleading if they suggest that Sextus lives a life like that of the everyday citizen. The skeptical way of life is philosophical in some real sense, and although Sextus is at pains to distinguish his way of life from the dogmatic life, that does not mean he lives like the typical farmer or shopkeeper. LSJ suggests that Sextus means “the world we live in”, but I also think this is misleading because dogmatists also live in this world even though their dogmatic way of living is at odds with *bios* as Sextus conceives it. By using '*Life*' to translate the term, I am trying to flag the technical usage without prejudicing my translation. Second, as we will see in chapter 4, Sextus sometimes personifies *bios*. He claims that commemorative signs “have been trusted by *Life* [πεπίστευται ὑπὸ τοῦ βίου]” (*PH* II 102) or that “*Life* uses them” (*M* VIII 158). Elsewhere he says that *Life* supposes something (*PH* III 65). Thus, I also capitalize '*Life*' to capture the figurative way that Sextus sometimes uses the term. He thinks of *bios* as a particular way that skeptic acts (or perhaps even should act).

238καὶ ὁ μὲν ἀπὸ τῆς διαφωνίας ἐστὶ καθ' ὃν περὶ τοῦ προτεθέντος πράγματος ἀνεπικρίτον στάσιν παρὰ τε τῷ βίῳ καὶ παρὰ τοῖς φιλοσόφοις εὐρίσκομεν γεγενημένην, δι' ἣν οὐ δυνάμενοι αἰρεῖσθαι τι ἢ ἀποδοκιμάζειν καταλήγομεν εἰς ἐποχὴν. (*PH* I 165) Diogenes Laertius says that the mode shows a matter of investigation to be full of extreme conflict and trouble among philosophers and customary practice [*sunētheia*] (*DL* IX 88).

239Barnes (1990, 13–14). Note that in the first case, it is possible that every party in the dispute could be wrong because none of them have correctly identified the fundamental elements; whereas in the second case, one of the parties must be correct. cf. Barnes (1990, 11).

am faced with a disagreement, I must have some way, some method, to decide between the positions – even if that means selecting one by rolling dice or by fiat. The only other option is to suspend judgment in the face of indecision. So the first mode involves “discovering” a dispute that cannot be decided.

The mode of disagreement is used throughout Sextus' writings when he approaches a new philosophical topic. He often introduces the variety of positions at the beginning of a new section and then spends that section discussing the arguments for and against.²⁴⁰ Regarding the criterion of truth, he says that “Of those who have discussed the criterion, some assert that there is one (like the Stoics and some others), some that it does not exist (like Xenias of Corinth and Xenophanes of Colophon...), but we suspend judgment whether there is one or not” (*PH* II 18). He then goes on to say that the question (i.e. whether there is a criterion) must be investigated (*PH* II 19). What follows is a discussion about the various putative criteria and their various short-comings. Finally, Sextus completes the section claiming that because no criterion wins out, the result is the suspension of judgment. (*PH* II 79).

This example serves to illustrate the sense in which the modes are dialectical. The first mode calls for the skeptic to point out a dispute. This makes the interlocutor aware of the need for decision. That, on its own, is not enough to generate the suspension. In order for suspension to follow, the dispute must be undecidable, or at least undecided. A faithful dogmatist will think that he has the means to make the decision and will give his reason for one side over the other. But the skeptic will give pause; both sides need to be

²⁴⁰See, for example, the discussion on motion (*PH* III 64-81) or place (*PH* III 119-135).

weighed before a decision can be made. Certainly, what the dogmatist says in favor of his position (or against the other position) will be considered, but that cannot be the only consideration. The mode is called disagreement, but what makes the mode effective from a skeptical standpoint is that the disagreement is undecided. And as long as it stays undecided, judgment is suspended.

Up to this point, I've been speaking as if Sextus mainly presents philosophical disagreements, but notice that he says the disagreements happen “in *Life* [*bios*] and among the philosophers.” Sextus sometimes appeals to what *Life* tells us, as for example, when he says that there are three general positions on motion: “For *Life* and some philosophers suppose that motion exists, but Parmenides and Melissus and some others [say] that it does not exist; and the skeptics say that it no more is than is not” (*PH* III 65).²⁴¹ Now Sextus' conception of *Life* as an entity is complex and interesting in its own right.²⁴² Sometimes, when Sextus appeals to *bios*, he seems to mean simply what appears, that is the *phainomena*.²⁴³ In fact, when he is introducing a new topic for discussion, often he will mention the appearances rather than *bios*. For example, when introducing the question of time, he says, “We experience the same thing also in the inquiry about time; for it seems to be something, based on the *phainomena*, but based upon what is said about

241 τρεῖς δέ, οἶμαι, γέγονασιν αἱ ἀνωτάτω περὶ κινήσεως στάσεις. ὁ μὲν γὰρ βίος καὶ τινες τῶν φιλοσόφων εἶναι κίνησιν ὑπολαμβάνουσιν, μὴ εἶναι δὲ Παρμενίδης τε καὶ Μέλισσος καὶ ἄλλοι τινές, μὴ μᾶλλον δὲ εἶναι ἢ μὴ εἶναι ἔφασαν οἱ σκεπτικοί· (*PH* III 65; cf. *PH* III 219).

242 For some discussion of this topic, see Grgič (2011); as well as chapter 13 in Hankinson (1995a), and chapter 9 in Thorsrud (2009).

243 At *PH* I 237, Sextus qualifies *bios* with the word *koinos*, “common”. There he draws the connection between *Life* and the four-fold observance which constitutes the skeptical criterion (i.e the *phainomenon*). cf. *PH* I 21-24. I should note that Barnes (1990, 17) translates *para tōi biōi* at *PH* I 165 as “among laymen”, which seems an odd translation to me. As I've already suggested Sextus typically links *bios* to the skeptical way of living (cf. *PH* II 102). It is also true that, at times, he clearly suspends judgment about what is held by “laymen” (cf. *PH* III 218-219 where he mentions a variety of common theological beliefs).

it, it seems non-existent” (*PH* III 136).²⁴⁴ If we take Sextus' invocation of *Life* as referring to the *phainomena*, then it looks as if Sextus introduces of the mode of disagreement in the same way that he defines *epochē* in general; that is, skeptics suspend judgment when they come across equally weighted disputes, whether the disagreement occurs among appearances, or among thoughts, or between thoughts and appearances.²⁴⁵

In light of this, Morison's interpretation is puzzling when he claims that the mode of disagreement is intended to generate claims that oppose arguments from authority. He says, “The mode of dispute is called upon if someone is arguing that *p* on the basis of the fact that someone or other propounds that *p*. The sceptic's move is to point out that there are others who propound that not-*p*.”²⁴⁶ What does it mean for someone to argue from authority on the basis of *Life*? Suppose that someone argued for the claim that motion exists on the basis that “the bird appears to me to be moving.” We certainly would not call such an argument an appeal to authority. The oppositional interpretation claims that the modes generate equally weighted arguments. But, on Morison's interpretation, we have no reason for supposing that the arguments are equally weighted, if one appeals to authority, but the other appeals to the *phainomena*. Why think that an argument from authority and an appeal to observation carry the same credence?²⁴⁷ On my view, other

244Τὸ δὲ αὐτὸ πάσχομεν καὶ ἐν τῇ περὶ τοῦ χρόνου ζητήσει· ὅσον μὲν γὰρ ἐπὶ τοῖς φαινομένοις δοκεῖ τι εἶναι ὁ χρόνος, ὅσον δὲ ἐπὶ τοῖς περὶ αὐτοῦ λεγομένοις ἀνυπόστατος φαίνεται. (*PH* III 136).

245Hankinson (1995a) claims that the appeal to *bios* here indicates that “Agrippan Scepticism is not confined to the ‘non-evident objects of scientific inquiry’” (182). But I'm not sure we can say that on the basis of this passage. Sextus, earlier, makes it quite clear that he will argue against the appearances in order to show how ridiculous the dogmatic positions are, but he insists that this does not mean he rejects the *phainomena* (*PH* I 20). Similarly, the Agrippan modes appeal to differences among the appearances, but that does not necessarily mean that Agrippan skepticism suspended judgment about the ordinary things (although it is a possibility).

246Morison (forthcoming, 15).

247Morison might simply say that the mode of disagreement can also involve appeals to the appearances. So if someone says that motion exists because that bird appears to be flying, the skeptic might say,

modes are involved in generating the suspension by insuring that the dispute continues without resolution.

3.2.2 Being Thrown to Infinity

If the mode of disagreement essentially encourages the dogmatic interlocutor to provide support for one side of the dispute, the mode *ad infinitum* makes it clear that the skeptic intends to keep pushing the question of support back further. Here is how Sextus describes the second mode:

And the mode from infinite regress is that in which we say that what is brought for assurance of the proposed matter is in need of something else, and that is in need of another, and so on until infinity, so that, since we have no where from which to begin the establishment [of the case], suspension follows. (*PH* I 166)²⁴⁸

Here Sextus uses the first person plural – the skeptics are the ones who say that the current evidence needs its own support and that support needs something else. So I take it that the mode of infinite regress is simply the dialectical move of repeatedly questioning the grounds for a position.²⁴⁹ One might think of this as the toddler's mode: One can always ask “why?” of any claim at all. While this is an over-simplification, it is not far

“Well, Melissus says motion does not exist.” But, notice what has happened. The two arguments are not parallel insofar as they appeal to different grounds, one to the appearances and the other to an authority. According to Morison, each mode provides a mechanism to generate equally opposing arguments. But it is difficult to see why these arguments are equal given that they appeal to different kinds of putative evidence.

248ὁ δὲ ἀπὸ τῆς εἰς ἄπειρον ἐκπτώσεως ἐστὶν ἐν ᾧ τὸ φερόμενον εἰς πίστιν τοῦ προτεθέντος πράγματος πίστεως ἐτέρας χρήζειν λέγομεν, κάκεινο ἄλλης, καὶ μέχρις ἀπείρου, ὥς μὴ ἔχόντων ἡμῶν πόθεν ἀρξόμεθα τῆς κατασκευῆς τὴν ἐποχὴν ἀκολουθεῖν. (*PH* I 166)

249Diogenes Laertius, perhaps, makes this clearer. He says, “The mode of throwing out to infinity does not allow the matter being investigated to be secured because one thing receives credence from another and in this way [it continues] to infinity” (DL IX 88). The idea seems to be that one can always ask of the current claim being investigated why we should believe it to be the case. As long as the dogmatist continues to offer new grounds as the answer, that too can be questioned. Of course, the dogmatist might stamp his foot, insisting that no other grounds are needed. At that point, the skeptic will use a different mode.

off. This mode is not simply about asking for reason after reason; rather, it involves asking for the means to decide the earlier dispute.²⁵⁰ This explains why it is the second mode: Once the skeptic has pointed out a dispute, the dogmatist's first move is to try to support his side. The skeptic then asks for further grounds for the initial support. The dogmatist might offer them. The skeptic repeats the move, and the discussion could potentially continue in this way indefinitely.²⁵¹ Some interpreters might suggest that Sextus demands justification of the dogmatist or that the dogmatic norms of rationality require a reason be given for every belief. But on my view, the regressive mode does not demand that the dogmatist justify a belief (even though the dogmatist by his own norms might feel a demand). Rather the mode simply invites the dogmatist to support the view recognizing that, at some point, the dogmatist might very well simply assert that the current grounds in question are inexplicable or foundational. At that point, the skeptic must try a new tack and another mode will be introduced.

Sextus says that *epochē* follows the regressive mode, and it is important to be clear with respect to what the skeptic suspends judgment: The suspension is regarding the

²⁵⁰Thorsrud (2009) denies that this is the substance of the mode. He says, "Unlike the persistent child who keeps asking why, the sceptic's challenge arises from the dogmatist's own conception of justification and rational agency: the sceptic only reflects the dogmatist's epistemic ambitions" (149). As I mentioned before, I think that this view of the modes creates a problem because, if the modes arise only from the dogmatic view of justification and rationality, then the modes cannot work to produce *epochē* in the skeptic who has suspended judgment regarding justification and rationality. Obviously the skeptic had better suspend judgment about the adequate criteria for rational belief, but she will think that a given opposition seems equally weighted, and she will presumably look for what can be said in support of each opposition which thereby allows her to use the *ad infinitum* mode on herself.

²⁵¹Barnes (1990, 39) notes several places where Sextus appeals to regressions which do not involve some question of justification: *PH* II 40; III 44, 67, 68, 76, 162; *M* VII 312, IX 221, 261, 435; X 20, 76, 129, 256; *M* I 180, 242, 245; III 81. He suggests that these examples may help us understand the mode of regression. However, I take it that these are not examples of the use of the mode because the question of support is essential to the way the mode works. Rather, I think that Sextus used other appeals to infinity in addition to that which characterizes the Agrippan mode.

initial question. The reason he gives is that there is no where from which to begin the establishment of the question. But that is not because the skeptic has identified a fallacy that the dogmatist is using.²⁵² Rather, it is because the investigation of the question was itself suspended when discussion turned to the grounds for the support of one side in the question (and the grounds for that). In other words, the skeptic suspends judgment as long as the question is not decided, and one way for the skeptic to put off the decision is by investigating the grounds, and the grounds for the grounds, and so on, indefinitely. This also means that the suspension is conditional; *epochē* follows the regressive mode as long as the dogmatist continues to provide reasons for the previous reasons or support for the previous support. Once he stands his ground and asserts that he has reached the foundations, then another mode must be used in order to continue the debate.

When Sextus actually appeals to this mode in his texts, of course, he does not ask “Why?” interminably. Rather, when it becomes clear that the support for the support (of a particular question) follows a pattern, he indicates that this can go on *ad infinitum*. So, for example, when Sextus introduces the philosophical dispute regarding existence of the criterion of truth, he raises the question of whether we need a criterion by which to determine the correct criterion of truth. Regarding dogmatic attempts to establish such a criterion, he says, “...while, if they want to judge the criterion by a criterion, then we throw them to infinity” (*PH* II 20).²⁵³ It is immediately obvious that if you need a criterion to judge the criterion of truth, then one can simply ask about the second criterion

²⁵²Barnes and Hankinson both suggest that this is how the regressive mode works. I discuss Barnes' account in some detail below, but see also Hankinson (1995a, 186, 188).

²⁵³ήμῶν ..., ἐάν τε κριτηρίῳ τὸ κριτήριον κρίνειν ἐθέλωσιν, εἰς ἀπειρίαν αὐτοὺς ἐκβαλλόντων. (*PH* II 20).

how we should judge that, and this line of questioning could go on forever assuming a dogmatic appeal to another criterion in each case.²⁵⁴ So I take it that, while Sextus does not as a matter of fact run through an infinite regress, the force of the mode is that if the question of support can be pushed back, then the skeptic will do so.

Note that on my interpretation, this mode involves a dialectical move (potentially, a series of moves) rather than an argument. To appreciate the importance of this, consider the problem that arises for the gladiatorial interpretation: Barnes suggests that the regressive mode is used when the dogmatist offers a regressive argument. For example, claim *p* is supported by the set of reasons *R*₁. The *R*₁ is in turn supported by *R*₂ which is supported by *R*₃, and so on, *ad infinitum*. So, in a sense, the entire, unending string of support is the argument offered by the dogmatist for claim *p*. Barnes rightly wonders why we should expect to suspend judgment on *p* just because the dogmatist has offered such an argument. After all, we should not suspend judgment on *p* simply because the dogmatist has offered a bad argument for *p*, since there may be some other good argument for *p*, one that does support *p*.²⁵⁵ But even if we grant that we should suspend judgment on claim *p* *as far as this argument goes*, we might still wonder what about this argument should cause us to suspend judgment. Here Barnes gets bogged down in questions of the justification of infinite sequences.²⁵⁶ He points out that while we cannot

²⁵⁴Sextus uses the regressive mode when he considers the possibility that the dogmatist justifies something – like the criterion – by means of the same type of epistemic entity – another criterion. So you end up with a series of justifications of like kind. For series of proofs, see *PH* I 122; II 85, 182, III 8, 36, 53; *M* VII 339; VIII 16, 21, 78, 347; *M* II 109, 112. For series of criteria, see *PH* II 20, 36, 78, 89, 90, 92, 93; III 36, 241; *M* VII 340, 429, 441; VIII 19. For series of signs, see *PH* II 124, 128. For series of explanations, see *PH* I 186; III 24. For series of definitions, see *PH* II 207. These examples also illustrate the way in which the regressive mode does not simply generate regresses of reasons, but regresses of the means to adjudicate the issue.

²⁵⁵Barnes (1990, 42).

²⁵⁶Barnes (1990) develops this line of argument in some detail; see pp. 48-51.

go through an infinite series of arguments in a finite amount of time, that does not mean that we cannot see the pattern in an infinite sequence of arguments. Consider the following series as an example:

n) ...

...

3) $[(p \ \& \ q_1) \ \& \ q_2] \ \& \ q_3 \vdash (p \ \& \ q_1) \ \& \ q_2$

2) $(p \ \& \ q_1) \ \& \ q_2 \vdash p \ \& \ q_1$

1) $p \ \& \ q_1 \vdash p$

In the given example, each conclusion is the premise in the next sequent, and each premise implies its conclusion. Anyone can see the pattern and generate the nth previous sequent. Thus, Barnes argues that while Sextus may be right that we cannot go through an infinite number of arguments, it is false that one cannot state the support for any given claim in an infinite series. Barnes suggests that these sorts of considerations should lead us to reject Sextus' apparent claim that we cannot establish something on the basis of infinite regression since we cannot go through an infinite number of reasons or proofs. But, he concedes that any such regression will not be “epistemologically serious”, by which I suppose he means that we cannot learn anything new through such regressive arguments.²⁵⁷

In short, the gladiatorial interpretation sees the mode of infinite regress as an

²⁵⁷Barnes (1990, 51). My own example above is not “serious” in the sense that each sequent begs the question since the premise for each argument is simply the conclusion conjoined with some further claim. Hankinson (1995a) essentially follows Barnes' line of reasoning here, arguing that it is possible to imagine an infinitely regressive argument, but that any example will “pose no threat to the Infinite Regress Mode” (188-189).

appeal to a particular fallacy.²⁵⁸ Since a regressive argument is “unacceptable”, we should suspend judgment pending any further considerations.²⁵⁹ But as Morison points out, Barnes' view seems to commit Sextus to a belief – namely that regressive arguments are bad – about which he ought to suspend judgment if he is a good skeptic.²⁶⁰ And this is one reason to reject Barnes' version of the gladiatorial view.

The oppositional view raises its own questions. Morison – borrowing an idea from Barnes²⁶¹ – suggests that the regressive mode is meant to provide the skeptic with a way of generating equally opposing regressive arguments.²⁶² If a mathematician argues regressively that “two is even” because “four is even” because “eight is even” and so on, then the skeptic will oppose to this the parallel argument that “two is odd” because “four is odd” because “eight is odd” and so on. Since the arguments are completely parallel, there is no reason to prefer one to the other, so we must suspend judgment. I offer two objections to this line of reasoning. The first is textual: We do not see Sextus arguing like this anywhere in his writings. When he appeals to a regression to infinity, he never generates two parallel regressions. Rather, he simply notes the single regression and

²⁵⁸Barnes (1990, 44).

²⁵⁹This is why Thorsrud (2009) emphasizes the way in which this mode typically works in conjunction with other modes. He says, “Since few would rest their justification on an infinite regress in the first place, this mode is most commonly used in conjunction with the hypothetical and reciprocal modes” (153).

²⁶⁰Hankinson (1995a) argues that the modes (it's not clear whether he means all five or only the 3 he calls “Formal”, that is regression, reciprocity and hypothesis) are simply the codification of dogmatic canons of rationality and so they are meant to induce *epochē* in the dogmatist, not the skeptic (192). But this yields a strange result. According to Hankinson, the dogmatist who is committed to the validity and invalidity of certain argument forms – like regression – may suspend judgment on many questions. But once he suspends judgment about the invalidity of the forms that constitute the modes, then the modes will no longer work because the skeptic will not grant that, on her own view, infinite regress arguments are unacceptable. This tells against Hankinson's interpretation since Sextus seems happy to use the modes in his own investigation as much as in any discussion with a particular dogmatist.

²⁶¹Barnes (1990, 51–56).

²⁶²Morison (forthcoming, 30).

sometimes indicates its unacceptability. The second objection involves thinking about how the modes were used. They were clearly meant to be used – at least in part – to engage with dogmatic philosophers. I submit that no dogmatic philosopher would have offered a regressive argument for precisely the reasons many scholars have given.²⁶³ If there are no regressive arguments to oppose, then there is no reason to think that Agrippa (or whoever) would have developed a mode to oppose such arguments. The mode would have been completely useless.

The pragmatic interpretation does not run into any of these problems. My interpretation says that the skeptic suspends judgment on question *p* because she is in the midst of asking about the grounds of *p*, that is *R*₁. But she cannot decide *p* unless she has established *R*₁, so she asks about the grounds for *R*₁; call this *R*₂. Why does she suspend judgment about *p*? She remains in the middle of the dialectic and will remain there until the dogmatist makes a move that settles the question. The interlocutors suspend judgment because a decision has yet to be made. But this does not commit the skeptic to any position regarding the logical status of infinitely long arguments. The skeptic need not even take a position about the status of said grounds, she merely requests support for each claim as long as the dogmatist is willing to provide it.

3.2.3 Relativity

Interpreters typically group regression, hypothesis and reciprocity together, and

²⁶³Scholars tend to compare the mode of regression to Aristotle's discussion of regression in the *Post. Analytics* I 3 72b5-11. See Hankinson (1995a, 188); and Long (1981, 85–93). Barnes (1990) has an extended discussion at pp. 120–123. See also, Barnes' commentary on this passage in Barnes (1994, 103–105).

they often view relativity as superfluous or repetitive.²⁶⁴ On my interpretation, the remaining three modes (relativity, hypothesis and reciprocity) belong together since each one represents a move the skeptic can make when an interlocutor attempts to break out of the regress.²⁶⁵ Consider the dialectic: The skeptic has presented the dogmatist with an undecided problem. The dogmatist attempts to justify one of the sides. The skeptic requests support for the justification. This can theoretically continue forever, but typically, in ancient philosophical schools, the dogmatist will appeal to some kind of grounding principle [*archē*].²⁶⁶ Modern interpreters of the modes often say that, when this happens, the skeptic will wheel out the mode of hypothesis in order to block the dogmatic foundationalist.²⁶⁷ But I think the mode of hypothesis on its own will not trouble most dogmatists. Most dogmatists offer foundations that *they think* are not susceptible to the hypothetical mode because the grounds they offer are clear and apprehensive.²⁶⁸ This

264Thorsrud (2009) calls it an “adjunct to the mode deriving from dispute” because it is used for generating disagreements (148). Dye and Vitrac (2009) agree that the modes of disagreement and relativity belong together since they both are used to initiate a process of justification from the dogmatist (194). Hankinson (1995a) says little about relativity, claiming that it “should perhaps not be treated as a separate Mode at all” (185). Barnes (1990) says that “it belongs...to a different species from the other Four Modes” (113).

265My interpretation also helps to explain the order of presentation for the Modes. Both Diogenes and Sextus present the modes in the same order which probably indicates this order was standard or that they both drew their descriptions from the same source (the latter seems quite possible given that they share certain phrases word for word). Hankinson (1995a) puzzles over the order: “Although Diogenes and Sextus preserve the same ordering (indicating that it was standard), there seems no rationale for it; and it breaks up the modes from Regress, Hypothesis, and Reciprocity, which form a coherent class” (182). But on my view, Relativity, Hypothesis and Reciprocity belong together because they are used in situations where the interlocutor tries to escape the potential regress.

266I discuss the way in which ancient philosophers and scientists used *archai* to ground their science in the next section of this chapter.

267Barnes (1990) suggests this in several places. See for example, pp 114-115; See also, Thorsrud (2009, 153). Hankinson (1995a) says that this mode “dismisses the possibility that a demonstration may begin from an assumed premiss” (189).

268Every scholar who sees the mode of hypothesis as opposing foundational principles points out that Aristotelian *archai* are not hypotheses in the sense of “mere assertions.” Aristotle claims that his *archai* are indemonstrable, yet they are knowable through *nous* and *eisagogē*. For more discussion on this, see Barnes (1990, 93–97, 120–122); Hankinson (1995a, 190); Thorsrud (2009, 154). I will discuss this point in more detail in the next section of this chapter.

explains why the mode of relativity is necessary. If the modes are meant to generate *epochē* in the dogmatist, then they had better not appeal to considerations that dogmatists think irrelevant.

Here is what Sextus says about the mode of relativity: “The mode from relativity, as we already said, is that in which the underlying reality appears this way or that relative to the one judging and relative to the things observed together with it, but we suspend judgment about what sort of thing it is by nature” (*PH* I 167).²⁶⁹ Because Sextus emphasizes the role of the appearances in this mode, I agree with the scholarly consensus which sees the mode of relativity as closely related to the ten modes of Aenesidemus.²⁷⁰ What I think they have missed is how relativity operates in the dialectic. If I am correct that the mode of disagreement is meant to raise the problem of the decidability of a particular question, a dogmatist may attempt to ground an explanation in empirical considerations. Now Sextus is clear that the skeptics do not question the appearances as appearances, but they investigate what can be said about the appearances (*PH* I 19). When the dogmatist attempts to support a position by appeal to the appearances, then the skeptic will point out that while it may appear to the dogmatist one way, it appears to someone else in another way.

Diogenes' description is helpful. He says, “The mode of relativity says that nothing is accepted in its own right [*kath' eauto*], rather [it needs to be accepted] together

269ὁ δὲ ἀπὸ τοῦ πρὸς τι, καθὼς προειρήκαμεν, ἐν ᾧ πρὸς μὲν τὸ κρίνον καὶ τὰ συνθεωρούμενα τοῖον ἢ τοῖον φαίνεται τὸ ὑποκείμενον, ὁποῖον δὲ ἔστι πρὸς τὴν φύσιν ἐπέχομεν. (*PH* I 167)

270Hankinson (1995a, 185) suggests this, as does Morison (forthcoming, 15-17). Much more scholarly work has been done on the ten modes of Aenesidemus than on the Agrippan modes. See for example, Striker (1983), Annas and Barnes (1985), and Woodruff (2010).

with something else. ...” (DL IX 89).²⁷¹ Whereas Sextus' description makes clear that the mode of relativity is used in appeals to the appearances, Diogenes' description indicates that what is at stake is the ability of the dogmatist to find something self-evident or self-grounding (*kath' eauto*). What is the effect of such a move? If the dogmatic train of thought attempts to find its ultimate grounds in the appearances, the mode of relativity raises the question why we should prefer one set of appearances to another. This potentially sets the whole discussion off on another track looking for justification regarding why a certain set of appearances is an adequate basis while some others are not. In the meantime, the skeptic has delayed decision on the initial question, so suspension is still in effect. Alternately, the dogmatist may retreat from the move that attempts to ground the discussion in relative appearances and instead try to find a ground that is non-relative, i.e. absolute. When this happens, the skeptic will use one of the final two modes.

3.2.4 Hypothesis

Sextus explicitly says in his description of the hypothetical mode that it operates in conjunction with the mode *ad infinitum*. “The mode from hypothesis is that, whenever the dogmatists are thrown back to infinity, they begin from something which they do not establish, but they claim to accept it simply and without demonstration as a concession” (PH I 168).²⁷² The hypothetical mode is used when the dogmatist wants to stop the regress, and he attempts to ground his position in a claim that is not established. I take it

271ὁ δὲ πρὸς τι οὐδὲν φησι καθ' ἑαυτὸ λαμβάνεσθαι, ἀλλὰ μεθ' ἑτέρου. ὅθεν ἄγνωστα εἶναι. (DL IX 89)

272ὁ δὲ ἐξ ὑποθέσεως ἔστιν ὅταν εἰς ἄπειρον ἐκβαλλόμενοι οἱ δογματικοὶ ἀπὸ τίνος ἄρξωνται ὃ οὐ κατασκευάζουσιν ἀλλ' ἀπλῶς καὶ ἀναποδείκτως κατὰ συγχώρησιν λαμβάνειν ἀξιοῦσιν. (PH I 168)

that the concessive aspect of this mode is important; the dogmatist simply asks that his claim be granted.²⁷³ Sextus himself quite often grants a thesis as a concession in his own work in order to argue a further point.²⁷⁴

Sextus does not tell us at *PH* I 168 how the hypothetical mode will be used, but he clarifies a bit later when he says,

But if our interlocutor, as he flees these [problems], claims as a concession and without demonstration to accept something for the demonstration of what comes next, the hypothetical mode – which is inescapable – will be introduced. For if the one hypothesizing is credible, we will not ever be more untrustworthy when we hypothesize the opposite. (*PH* I 173)²⁷⁵

Diogenes Laertius similarly indicates that the dialectical move used in the hypothetical mode is simply to oppose whatever posit the dogmatist has made with an “opposite”, that is, incompatible claim.²⁷⁶ The result is that there is an equally weighted opposition which will cause the skeptic to suspend judgment. But what is more important from the standpoint of the discussion with the dogmatist is that the opposing hypothesis will push the dogmatist toward one of two possible options. Either, the dogmatist must begin to argue *for his* hypothesis which was supposed to be assumed without demonstration, in

273The fact that Sextus emphasizes concession in the hypothetical mode tells against Barnes' view that the hypothesis is Aristotelian in the sense of being taken as an indemonstrable first principle. The hypothesis is meant to be taken as true, but, as a concession, which I suspect means that the dogmatist is asking the skeptic to suppose that the claim is true for the sake of argument. See Barnes (1990, 95–96). I discuss this point further in the next section of this chapter.

274Typically, Sextus' concessive arguments take a form like this: There are no sayables [*lekta*], but even if we grant that there are, there will not be any statements (*PH* II 107-109). Each time Sextus grants a claim, the following section operates under the given hypothesis.

275εἰ δὲ ταῦτα φεύγων ὁ προσδιαλεγόμενος ἡμῖν κατὰ συγχώρησιν καὶ ἀναποδείκτως ἀξιῶσει λαμβάνειν τι πρὸς ἀπόδειξιν τῶν ἐξῆς, ὁ ὑποθετικός εἰσαχθήσεται τρόπος, ἄπορος ὑπάρχων. εἰ μὲν γὰρ ὁ ὑποτιθέμενος πιστός ἐστιν, ἡμεῖς αἰεὶ τὸ ἀντικείμενον ὑποτιθέμενοι οὐκ ἐσόμεθα ἀπιστότεροι. (*PH* I 173)

276Diogenes says, “The mode from hypothesis is erected when someone thinks that the primary things of a matter must be accepted directly as if they are credible and they must not be questioned. This is foolish; for someone else will hypothesize the opposite” (*DL* IX 89).

which case the skeptic has again shifted the discussion from the current question to the justification for the grounds (that is, the grounds of the dogmatic hypothesis). Or the dogmatist will argue that the opposing hypothesis should not be accepted.

Sextus has a ready made response to this latter tactic. He has a collection of Pyrrhonian arguments against hypothesis which he repeats in three places (*M* VIII 369-378, *M* III 7-17, *PH* I 173-174). We'll look at these arguments in detail later in this chapter, but, in any case, notice what has again happened to the dialectic. If the dogmatist insists on arguing that the skeptical hypothesis should not be allowed, he must give reasons why. Now, the skeptic has succeeded in moving the discussion from the original argumentative track to a line about the status of hypotheses (or some particular hypothesis) and their (its) role in the argumentative dialectic. By shifting the discussion away from the grounds of the original topic of debate, the dogmatist and the skeptic alike must suspend judgment on that original discussion until the dispute over the status of hypotheses is sorted out.

The force of the hypothetical mode is not so much that it raises an objection to dogmatic hypothesizing, but rather it again raises the question of decision.²⁷⁷ Why should we prefer the dogmatic posit to its opposite? This mode is similar to the mode of disagreement in its motivation, but it differs because the mode of disagreement raises an actual dispute about a substantive issue. The mode of hypothesis simply generates a dispute by posit and is meant to be used in the cases where the dogmatist tries to ground

²⁷⁷As in the case of infinite regression, the gladiatorial interpretation claims that the hypothetical mode is an objection to dogmatic hypothesizing. The result of *epochē* is supposed to follow from the fact that an unsupported hypothesis provides inadequate grounds for any conclusion. See Barnes (1990, 99), Hankinson (1995a, 190), Thorsrud (2009, 153).

his position in an unsupported assumption.

The oppositional interpretation claims that the hypothetical mode involves the generation of an opposing argument. It is, I think, worth quoting the extended passage where Morison describes it. He says,

The idea is rather straightforward. The dogmatist offers an argument for his conclusion P, and that argument starts from a hypothesis Q. The sceptic recognizes that the dogmatist has employed an argument which starts from a hypothesis, and so appeals to an opposite or contrary hypothesis which will entail a proposition incompatible with P. Thus, the hypothetical mode involves the construction of an opposing argument—an argument whose conclusion opposes the conclusion of the dogmatist's argument—which the sceptic would present as the counterweight to the dogmatist's argument. And the beauty of this is that the Sceptic would be offering an *equal* and opposing argument, equal in this sense: the argument would have the same epistemic force as the one the dogmatist proposed, since the sceptic's counterargument, like the dogmatist's argument, relied on a mere hypothesis.²⁷⁸

Morison bases this interpretation primarily on a passage in *Against the Geometers* where Sextus constructs an argument that six is eight based on the hypothesis that three is four (*M* III 11). Sextus offers this example in order to argue that if any hypothesis is allowed, that will destroy all inquiry (*pasan anhairei zētēsīn*). He never claims that this is the way the mode from hypothesis is meant to work. In fact, Sextus is not talking about the modes at all in *M* III.²⁷⁹

Moreover, Morison and I disagree about the nature of the suspension. He thinks that the suspension of judgment follows from what he calls “epistemologically equivalent arguments”. That is, the dogmatist presents the following argument:

1. If twice one is two, then twice two is four.

²⁷⁸Morison (forthcoming, 27 his emphasis).

²⁷⁹As I pointed out earlier, there is some argumentative overlap between the description of the hypothetical mode and the beginning of *M* III, but Sextus never mentions the mode(s) when he talks about hypothesis in *M* III.

2. Twice one is two.
3. So, twice two is four.

On Morison's view, assuming that the skeptic recognizes this as an argument that appeals to hypothesis, she responds with this argument:

4. If twice one is three, then twice two is six.
5. Twice one is three.
6. So, twice two is six.

Morison claims that these two arguments are equal and opposing and therefore satisfy the conditions for generating the suspension of judgment. But are they equally weighted arguments? The dogmatist will certainly not think so, since the dogmatist knows (5) to be false. As a result, the dogmatist will not suspend judgment on the basis of this opposition. This argument construction procedure will have no effect on an dogmatist. It would, perhaps, only generate *epochē* in firmly established skeptics.²⁸⁰

There is a further problem with Morison's argument. Sometimes, although p implies q , the contrary p^* does not imply a contrary q^* .²⁸¹ For example, suppose that the dogmatist offers this argument from hypothesis: "All undergraduates are lazy, so some lazy people are undergraduates." The skeptic might posit the contradictory "Not all undergraduates are lazy", but it does not follow from this that "No lazy people are undergraduates" or that "Some lazy people are not undergraduates". So, it looks like the mode will only work for some opposing hypotheses and not others.²⁸² But this seems to

280Although the dogmatist might be assuming the hypothesis without proof, he might think he has proofs that the competing hypotheses are false, which is sufficient to generate a disjunctive syllogism in favor of his own view.

281Morison (forthcoming) notes this, but claims that "Sextus talks as if it is something incompatible with Q which will serve as the hypothesis which will entail not- P " (29 n20). He cites *PH* I 173 as evidence of this claim, but Sextus never mentions entailment or implication there. All he says is that the skeptic will hypothesize the opposite.

282Of course, if the skeptic posits that "No undergraduates are lazy", then she could get the equivalent "No

be a problem because Sextus pretty clearly thinks that any inquiry can be opposed by the modes (*PH* I 169) which does not appear to be possible on Morison's interpretation.²⁸³

On my view, the suspension of judgment is generated by halting the discussion about the current argument and pressing the dogmatist about the status of the hypothesis. In the case of the dogmatic argument above, the skeptic might ask why she should believe that twice one is two. If the dogmatist asks for his claim to be granted for the sake of argument, the skeptic will suggest that she could just as well posit that twice one is three. The dogmatist is then faced with justifying his claim or arguing that the skeptic's hypothesis is no good. In the former case, the skeptic has pushed the dogmatist further into the argumentative regression. In the latter case, the discussion must shift to the status of the skeptic's hypothesis or perhaps the status of hypotheses in general. In either case, the original discussion is halted, and judgment on the original question is suspended. Wherever the discussion with the dogmatist ends, the skeptic can point out that together they have not yet resolved the original question; so even the dogmatist should suspend judgment until the resolution is available. This does not amount to a dogmatic claim on the skeptic's part. Rather, she would simply be pointing out that they sought to resolve a question in their discussion and they still have not done so.

lazy people are undergraduates", but she could not get "Some lazy people are not undergraduates". And in any case, this point illustrates that not just any opposing hypothesis will do the trick on Morison's interpretation. The hypothesis must be picked so that the appropriate opposition follows. There may be certain cases in which this is impossible. And even if it is not, one might have expected Sextus to give more guidance about how to pick the hypothesis if Morison is right about how it is meant to be used.

²⁸³It's also worth noting that Morison and I agree on several points regarding the mode of hypothesis. We both agree that the mode involves positing a contrary hypothesis. And we both agree that the mode of hypothesis cannot be a prohibition on unsupported premises, as Hankinson and Barnes would have it, because that would involve a dogmatic commitment that the skeptic eschews.

3.2.5 Reciprocal Mode

The reciprocal mode is perhaps the strangest and most difficult one to understand.

Here is what Sextus says about it:

The reciprocal mode is erected whenever the thing that ought to confirm the matter being investigated needs assurance [*pistis*] from the thing being investigated. In this case, since we are not able to accept either of them for the establishment of the other, we suspend judgment about both of them. (*PH* I 169)²⁸⁴

Most commentators think that Sextus is talking about circular arguments here. There are several difficulties with this suggestion. First, when Sextus describes the mode, he only mentions two things which confirm each other, rather than presenting the more general case of arbitrarily large circular arguments.²⁸⁵ Most scholars suggest that Sextus is handling the simplest case, but that he would extend it if pressed.²⁸⁶ Second, when Sextus appeals to this mode, sometimes he takes issues with argumentative claims, but often he points out a conceptual rather than a logical interdependence. Assuming that Sextus is using the mode correctly in those circumstances, then the assurance that he speaks of need not be a matter of demonstrative justification or proof.

As I suggested above, on my view, the reciprocal mode is meant to handle a potential grounding scenario, like the mode from relativity and the mode from

284ὁ δὲ διάλληλος τρόπος συνίσταται, ὅταν τὸ ὀφείλον τοῦ ζητουμένου πράγματος εἶναι βεβαιωτικὸν χρεῖαν ἔχη τῆς ἐκ τοῦ ζητουμένου πίστεως· ἔνθα μηδέτερον δυνάμενοι λαβεῖν πρὸς κατασκευὴν θατέρου, περὶ ἀμφοτέρων ἐπέχομεν. (*PH* I 169)

285This is not just an issue about how Sextus presents the mode, but also about how he uses the mode in his writings. Barnes (1990, 64) notes that Sextus appeals to reciprocity many times, but only ever considers pairs of arguments or definitions. That is, he never considers “circles” larger than two.

286Barnes (1990, 61) says that the reciprocal mode must oppose circular arguments of any size to be perfectly general, but he admits that a) Sextus only appeals to pairs when he evokes the reciprocal mode and b) many of those pairs are not arguments at all. Morison (forthcoming, 18 n10) agrees with Barnes that the reciprocal mode covers circular arguments of any size. Hankinson (1995a, 187) also claims that the mode must be extended to circular arguments of any size in order for the modes to be perfectly general.

hypothesis. Once again, Diogenes Laertius can help us better understand the mode:

But the reciprocal mode is erected whenever the thing which ought to confirm the matter under investigation needs assurance from the thing being investigated, for example, if someone, while he confirms the existence of pores because out-flows happen, should accept this very thing as confirmation that out-flows happen. (DL IX 89)²⁸⁷

The example that Diogenes offers in this case is enlightening. The idea seems to be that the dogmatist in question claims that the existence of pores is both a necessary and sufficient condition for the occurrence of emanations, that is, sweat. On my interpretation, the skeptics saw this as a dogmatic grounding technique distinct from the hypothetical foundationalism.²⁸⁸ The reciprocal mode should be used when a dogmatist thinks that he can ground the discussion by providing the correct necessary and sufficient conditions for something. The dogmatist might be satisfied that he has provided the correct analysis of pores; moreover, he might claim that he has not simply posited that emanations occur since it is entailed by the existence of pores.

It is true, in a sense, that this is a circular argument, but why would the skeptic suspend judgment on that basis?²⁸⁹ It cannot be that the skeptic *believes* that a reciprocal argument is non-probative or begs the question, even if it does.²⁹⁰ Morison claims that the

287ὁ δὲ δι' ἀλλήλων τρόπος συνίσταται ὅταν τὸ ὀφείλον τοῦ ζητουμένου πράγματος εἶναι βεβαιωτικὸν χρεῖαν ἔχη τῆς ἐκ τοῦ ζητουμένου πίστεως, οἷον εἰ τὸ εἶναι πόρους τις βεβαίῳ διὰ τὸ ἀπορροίας γίνεσθαι, αὐτὸ τοῦτο παραλαμβάνει πρὸς βεβαίωσιν το<ῦ> ἀπορροίας γίνεσθαι. (DL IX 89)

288Note the Aristotle at *An. Post.* I 3 72a18-24 says that immediate syllogistic principles can either be hypotheses OR definitions (*horismos*). So there is more than one type of grounding principle for scientific explanations even in the case of certain individual dogmatic philosophers, like Aristotle.

289Thorsrud (2009) points out that “the charge of circularity does not necessarily lead by itself to *epochē*” (158).

290Barnes (1990) implies that Sextus believes reciprocal arguments to be unsound when he says, “We shall hardly entertain the thought that Sextus might have had no objection to large circles, holding that reciprocal argument was the only unsound form of circular argument” (64). While other interpreters point out the problems with the circular argument, they are less clear that this is meant to be a belief that the skeptic holds. See Hankinson (1995a, 188); Thorsrud (2009, 158).

skeptic will construct an equivalent reciprocal argument for the opposing conclusion:

Any reciprocal argument adduced by the dogmatist for the conclusion P can be matched with a reciprocal argument for the conclusion not-P. After all, if the dogmatist can give grounds for his original conclusion which eventually turn out to rely on the proposition P, then the Sceptic can do the same for the proposition not-P.²⁹¹

But I'm not sure why we should think that the skeptic will be able to do this. Taking Diogenes' example above, the skeptic surely would not try to argue that pores do not exist on the basis there are no out-flows (and vice versa) precisely because the existence of pores was posited to explain the observable fact that we sweat.²⁹² If the skeptic were to offer such an opposing argument, then Morison is correct that the formal features of the opposing arguments would be the same, but the arguments would not appear to be equally weighted to anyone who has observed sweat.

On my interpretation, the reciprocal mode calls for the skeptic to grant the interdependence of the two concepts or the two claims. Then the skeptic can ask *of the conjunction* why the dogmatist thinks both are true or real. Again, taking Diogenes' example, skeptic might concede that out-flows guarantee the existence of pores, but then ask why she should believe that there are both out-flows *and* pores. This starts the discussion off again and has the effect of suspending judgment about both of the reciprocal parts, just as Sextus says.

The above reconstruction resembles what Sextus does when he uses the mode in

²⁹¹Morison (forthcoming, 30).

²⁹²Note that Hankinson (1995a, 188) is quite right to point out that it is one thing to observe that moisture forms on our skin and quite another to claim that it flows out of our skin since the latter begs the question for the pore theory. Still there is an observable phenomenon that needs explanation. While there certainly could be opposing theories about sweat, a theory could not claim that we do not sweat, and be equally weighted with the phenomena without some compelling argumentation.

his argumentation. So, for example, when he argues against causation, he points out that we do not conceive of cause and effect independently. Rather, we conceive of the cause as the cause of the effect if and only if we conceive of the effect as the effect of the cause. This raises the reciprocal mode which “shows them both unthinkable or inconceivable” (*PH* III 22). The reason he gives is that since each of them needs assurance [*pistis*] from the other, we will not have a place from which we will begin to form the concept [*ennoia*] of them.²⁹³

Similarly, we see Sextus invoke the reciprocal mode in arguments that mirror the Meno paradox. For example, when dogmatists argue that skeptics cannot investigate philosophical doctrines because they do not claim to apprehend anything, Sextus counters with an argument that relies on the relative priority of apprehension and investigation. “If someone wants to begin from apprehension, we divert him to the need to investigate before apprehending, and if he wants to begin from investigation, we divert him to the need to apprehend before investigating that which will be investigated” (*PH* II 9). Notice that Sextus paints a picture of the argumentative setting by using the first person here. The idea is that once the skeptic recognizes that the dogmatist has taken a stand (in this example, the claim “skeptics cannot investigate” is supported by the claim that apprehension of a subject is both necessary and sufficient for its investigation). The skeptic grants the reciprocal claim for the purpose of the argument and then wonders why we should think that apprehension and investigation exist at all since their

²⁹³Note the way the language of *PH* III 22 mirrors the language that Sextus uses for the infinite regress at *PH* I 166. If my interpretation of the regressive mode is correct, this suggests that the reciprocal mode involves the skeptic requesting support from the dogmatist for the conceptual analysis.

interdependence means that neither gets off the ground. Just as in the case of cause and effect, the claim of interdependence gives the skeptic the opportunity to grant the dogmatic claim, but then push the question back further. If one cannot be defined without the other, what reason can the dogmatist give to suggest that either concept obtains?

3.2.6 The System of the Modes

We have now looked at each mode individually; let us consider how they are meant to work together. On my interpretation, suspension of judgment is the result of two steps. First, the skeptic offers an opposition to the dogmatic position which presents a dispute to be resolved. Typically, the dogmatist will attempt to resolve the question by offering his reasons. Second, the skeptic requests that the dogmatist support the reasons, which pushes the discussion further back in the chain of justification. The suspension is created by delaying the initial decision, that is, by putting off the resolution.

When we dogmatists discuss a philosophical issue, the debate is typically resolved (if it is resolved) when we reach common ground. If you and I both agree on a certain point and we both agree that that point ultimately entails one side of the debate, then we have resolved the question, and we assent to one conclusion over the other. The skeptic need not grant anything as common ground, so suspension is the result of continued skeptical questioning. The modes provide the skeptic basic ways to avoid dialectical resolution, and thus, they serve as a kind of skeptical guidebook.²⁹⁴

²⁹⁴I should add that I do not think the five modes exhaust the skeptical resources; there are many ways to oppose arguments and appearances. The skeptics had a variety of collection of modes, and I think that different collections operate in different ways. But, I think that the five modes were unique in the way that they operate in conjunction with each other. I also think that they can tell us something interesting about the way that the skeptics reached *epochē*.

Let us consider an example from Sextus to illustrate how it works. One of the few examples that illustrate all five modes working together occurs when Sextus describes the general arguments against causal theorists. I'll quote the passage in full and then discuss how the modes are meant to operate in this context:

Perhaps even the five modes of *epochē* would be sufficient against causal explanations. For someone will offer an explanation that is either in harmony with all the philosophical schools and with skepticism and the *phainomena*, or it is not. And it is probably not possible that it is in harmony; for all of the *phainomena* and the unclear things have been disputed. But if it is discordant, then he will be asked also about the explanation for this. And if he accepts the *phainomena* as the explanation of the *phainomena* or the unclear as the explanation of the unclear, then he will fall out *ad infinitum*. If he accounts for one in terms of the other, then he will fall into the reciprocal mode. But if he makes a stand somewhere, either he will say that the explanation is secure to the extent that it is based on things already said, and he introduces the relative mode, destroying what is relative to nature. Or he will be suspended when he accepts something from hypothesis. So it is likely possible to confound the rashness of the dogmatists who give causal explanations through these [modes] too. (*PH* I 185-186)²⁹⁵

The first thing to note about this passage is that Sextus obviously thinks the modes will be used together in a debate where the explanatory dogmatist might make any number of moves. This dogmatist is someone [*tis*] who offers an explanation, and Sextus at least mentions the possibility that the explanation harmonizes with every possible philosophy as well as with the appearances.²⁹⁶

295τάχα δ' ἂν καὶ οἱ πέντε τρόποι τῆς ἐποχῆς ἀπαρκοῖεν πρὸς τὰς αἰτιολογίας. ἤτοι γὰρ σύμφωνον πάσαις ταῖς κατὰ φιλοσοφίαν αἱρέσεσι καὶ τῇ σκέψει καὶ τοῖς φαινομένοις αἰτίαν ἐρεῖ τις ἢ οὐ. καὶ σύμφωνον μὲν ἴσως οὐκ ἐνδέχεται· τὰ τε γὰρ φαινόμενα καὶ τὰ ἄδηλα πάντα διαπεφώνηται. [186] εἰ δὲ διάφωνεῖ, ἀπαιτηθήσεται καὶ ταύτης τὴν αἰτίαν, καὶ φαινομένην μὲν φαινομένης ἢ ἄδηλον ἀδήλου λαμβάνων εἰς ἄπειρον ἐκπεσεῖται, ἐναλλάξ δὲ αἰτιολογῶν εἰς τὸν διάλληλον. ἰστάμενος δέ που, ἢ ὅσον ἐπὶ τοῖς εἰρημένοις λέξει τὴν αἰτίαν συνεστάναι, καὶ εἰσάγει τὸ πρὸς τι, ἀναιρῶν τὸ πρὸς τὴν φύσιν, ἢ ἐξ ὑποθέσεως τι λαμβάνων ἐπισχεθήσεται. ἔστιν οὖν καὶ διὰ τούτων ἐλέγχειν ἴσως τὴν τῶν δογματικῶν ἐν ταῖς αἰτιολογίαις προπέτειαν. (*PH* I 185-186)

296There is no indication, contrary to what Morison (forthcoming, 15) suggests, that the dogmatist provides an *argument* for the explanation at first. Thus, the mode from disagreement cannot involve opposing an argument from authority by another argument from authority because there is no argument; there is only the initial dogmatic explanation.

Sextus thinks it likely that there will be a dispute, and if there is, then the skeptic will request an explanation of *this*. What is “this”? The feminine *tautēs* clearly refers to the original *aitia*. However, the ambiguity of the term *aitia* creates a puzzle. If *aitia* here means the efficient cause, as it sometimes does, then Sextus is saying the skeptic will point out that each cause must have a previous cause which will itself have another previous cause. But, why should the fact that there is a dispute raise the question of prior causation?²⁹⁷ The status of what caused a given putative cause has no obvious bearing on whether it is the cause or not. This suggests that *aitia* in this context must mean “explanation” and that the request for an explanation of the explanation is meant to allow the dogmatist to offer an explanation that decides the dispute. That is, the skeptic is requesting an explanation of why the first explanation is the correct one, and why it should be preferred over competing explanations.²⁹⁸

An example might be useful here. Let us assume that the dogmatic doctor explains the appearance of sweat by appealing to intelligible pores. The skeptic might point to a competing explanation that sweat condenses from the surrounding moist air. Since there is a dispute over the correct explanation for sweat, the dogmatist should feel motivated to explain why the dispute exists and why his explanation is the correct one. This explanation, which is meant to be decisive for the first explanation, must either appeal to things that are obvious (such as the appearance of moisture on the skin) or it must appeal to things which are unclear (like holes in the flesh). But if it appeals to

²⁹⁷See Thorsrud (2009) for a good discussion puzzling about a infinite causal chains (152).

²⁹⁸Here again, we see that the skeptics like to build regresses out of epistemologically similar types (in this case, explanations of explanations).

something obvious, there will still be a problem because the skeptic can point out that the alternate theory agrees about what is obvious, yet disagrees about the first explanation; so the dogmatist still owes the skeptic an explanation for why there is a disagreement if everyone agrees about the appearances. This can continue forever as long as the dogmatist appeals to observable phenomena; the skeptic will say, “yes, we all agree to that, but why does that explain the dispute?” If, on the other hand, the dogmatist appeals to something that is not clear; for example, if the dogmatist tries to explain the dispute in terms of a corpuscular theory, then the skeptic can point out that such a theory is not at all obvious and so requires something further to explain why it explains the difference. This can keep the explanations going forever.²⁹⁹ Assuming the dogmatist is persistent in offering explanations, the result is suspension of judgment insofar as the dogmatist never fully explains, and so does not resolve, the original dispute.

The reciprocal mode is the first in this passage to attempt to stop the regress. Having set up the contrast between the *phainomena* and the unclear, Sextus says that if the dogmatist attempts to explain one in terms of the other, then the reciprocal mode is invoked. Because the text here is so compressed, we cannot say exactly what Sextus has

²⁹⁹Consider what the alternative interpretative accounts must say here. Morison (forthcoming, 30-31) claims that the skeptic opposes the dogmatist's regressive argument with his own. But in the passage we are considering, the object is not an argument but an explanation, an *aitia*. The dogmatist clearly offers a single explanation at first and is then *asked* to offer a (single) explanation of that. It is only at that point that Sextus mentions the regressive mode. The picture here is clearly one of building a regressive chain link by link rather than bringing the whole argument down at once. Barnes thinks that the skeptic uses the mode as an objection to a particular argument that is regressive. Again, there seems to be no such argument here. Moreover, even if Barnes is right, there is still the puzzle about why Sextus presents the regression as one of like kinds: Couldn't there also be an infinite regression that mixes appearances and unclear things? Barnes (1990) himself discusses this in his chapter on reciprocal arguments (61-63). Clearly, there must be something about the type of explanation which contributes to the regression in Sextus' view. If the mode is simply appealing to the formal features of regressive explanation, we cannot explain the text here.

in mind about the reciprocal mode except that it is clearly meant to stop the regress.

Again, I take it that the dogmatist will claim that he simply affirms “There are pores if and only if out-flows happen.” The skeptic will grant this as a conceptual point and then ask why we should think that this explains the dispute about the original explanation.³⁰⁰

The next part of the passage makes it clear that the mode of relativity is meant to work in conjunction with the mode of hypothesis when the dogmatist attempts to stop the regress. If the dogmatist makes a stand, saying that some explanation is basic; and there need be no other explanation of an earlier explanation, the skeptic attempts to ferret out what sort of stand this is. If the dogmatist thinks that he can escape the need for an explanation by posit, the use of a mere hypothesis will cause the skeptic to posit a contrary claim, thereby generating an opposition which is no less credible. The dogmatist might object that the opposite hypothesis ought not be believed, but then the discussion is shifted to the status of bare assertions, and the original dispute is unresolved.

Alternatively, the dogmatist might assert that the previous explanation(s) were good enough and that he has sufficiently explained what needed to be explained. But Sextus says that in this case, the dogmatist will only have explained things relatively speaking; so he has not gotten at the nature of things.³⁰¹ The skeptic can then move the discussion to a debate about our (in)ability to get at absolute reality through relative observations and

³⁰⁰Hankinson (1998) says that “the Reciprocal Mode exposes circularities where the supposed explanans itself relies on the explanandum for confirmation, making neither well-founded” (286). I think this is right with the caveat that the skeptic does not *assert* that neither is well-founded. Rather, she simply asks what grounds the two of them together, and lets the dogmatist do the difficult work of answering.

³⁰¹This is why I think that Hankinson (1998) is wrong when he says that we might counter the modes by denying “that any and every fundamental, non-derived proposition needs to be a mere hypothesis, a simple unsupported assumption” (286). Any such fundamental claim will be made relative to some perspective, under certain conditions, with all sorts of relativity built in. Whether such a claim is an Aristotelian first principle or an empirically supported hypothesis of modern science makes no difference.

claims.³⁰² In each of these cases, the question of the original explanation remains unresolved, so the skeptic and the dogmatist will have suspended judgment indefinitely, at least from the standpoint of the current debate.

The modes are a sort of skeptical guidebook. They tell the skeptic how to generate *epochē* by creating the necessary opposition and then driving the question of support back further and further. Any time the dogmatic interlocutor attempts to ground the discussion, the modes give the skeptic a move to make which shifts the question of justification again. By questioning the grounds for the grounds, the debate continues. If the dogmatist is never allowed to cease the process of offering support, then he cannot claim to have decided the original question. The original question is suspended, pending resolution. This means that the dogmatist and the skeptic both suspend judgment from a dialectical standpoint.

Perhaps the dogmatist insists that the question is ultimately decidable and so does not suspend judgment from a personal, psychological standpoint. But notice that if the skeptic uses the modes properly, the dogmatist cannot insist that the question is decided in the context of the dialectic, so any dogmatic belief on his part will be ungrounded in the sense of not having ultimately justified his support. Notice too that there is no assumption made on the part of the skeptic about what constitutes rational justification. The modes are possible dialectical moves that guide the skeptic about what to say and

³⁰²As I said before, most scholars who write about the five modes don't give any substantial place to relativity in their discussion. On the view of Morison (forthcoming, 15-17), however, the skeptic will use this mode when the dogmatist offers an argument from the appearances. In this context, I think he's basically right although I think he fails to explain how this operates within the dialectic. The sense in which the dogmatist is "making a stand" when he offers such an explanation is not at all clear on Morison's view.

what questions she should ask, but they do not make any assumption about what constitutes adequate grounds. If the dogmatist thinks that beliefs are only justified rationally, the modes guide the skeptic to handle that. If the dogmatist thinks that empirical observations can ground his beliefs, the modes tell the skeptic how to handle that. In this way, the modes can be used effectively by the skeptic to generate *epochē*, both for herself and for the dogmatist, no matter what subject they debate. Importantly, the pragmatic interpretation helps explain why all five modes are necessary. One general problem with past interpretations is that they fail to show how all five modes work together.

The pragmatic interpretation also offers a picture of skeptical investigation, and this is one of the primary reasons to consider the Agrippan modes while trying to understand the notion of a skeptical science. Recent scholars have wrestled with the notion that the skeptic can claim both to suspend judgment and to continue investigating. As the modes show us, the suspension of judgment is not the final step at the end of a process of investigation. Instead, it occurs once the skeptic and her interlocutor realize that there is a decision to be made, and they begin the process of investigating what can be said in support of both sides.³⁰³

³⁰³Most of my presentation of the pragmatic interpretation has focused on the way that the modes operate on one side of the debate. That is, once the mode of disagreement raises a question that requires decision, the remaining modes are used to engage the dogmatic arguments for one side or the other. But, of course, if the disagreement is between two or more dogmatic schools, then these modes can be used to investigate each dogmatic position. This helps us make sense of the idea that the skeptic always finds each position in a debate equally credible. If the skeptic suspends judgment on, for example, whether the Stoics or the Epicureans have a better account of the happy life, she will use the modes to investigate the Stoic position and never reach secure grounds upon which to trust that the Stoics are correct. But she may, then, suspend that investigation in order to look into what the Epicureans say. By using the modes to investigate the Epicurean position, she finds again that she never reaches secure grounds. Even though the support that the two schools offer is quite different (and therefore may seem more or less plausible to different people), the investigation shows them to be on equal footing in this

Past interpretations see the modes themselves as a challenge to the rational justification for our beliefs. I think this dilutes the power of the modes, if it ties the modes to a particular view of reason and justification. A dogmatist has merely to “refute” the modes as an antidote to their poison.³⁰⁴ The power of the modes, in my view, is that they make no such assumptions, which means that, whatever view of support you hold, the modes can drive you to the endless chore of trying to establish your beliefs. Moreover, because the modes are meant to be practical guides, they can have a therapeutic effect on anyone with dogmatic tendencies. That is, once you learn the techniques, you can use them to suspend your own beliefs, and this is where the true challenge of the modes lie.

3.3 The Grounds of Ancient Science

In the previous section, I provided an interpretation of the modes of Agrippa whereby skeptical suspension is generated when one is presented with an undecided dispute and begins investigating into the grounds or support for either side of the dispute. In the course of my presentation, I simply stated without argument that, in ancient science, a dogmatist will typically attempt to ground the dispute with an appeal to some foundational principle [*archē*]. This act would cause the skeptic to use either the mode from relativity, the hypothetical mode, or the reciprocal mode. In this section, I will provide support for this view of ancient science by looking at the role that foundational principles play in ancient philosophy and geometry, and especially how they were

regard: Neither can offer secure grounds for its position.
304For answers to the gladiatorial interpretation, see Williams (2004) or Hankinson (1998, 286).

conceived in relation to the notion of hypothesis. When we see that hypotheses were used both as the starting point and as the ultimate conclusion in the geometric methods of analysis and synthesis, we will better understand the skeptic's arguments against hypothesis. This will lead to the discussion in the next section about the skeptical attack on the hypothetical method in *Against the Geometers*.

Barnes, following Sextus, notes that the term “hypothesis” is ambiguous in ancient Greek. In some philosophical and mathematical contexts, it can mean simply a posit used as a premise in an argument or demonstration. The claim is unsupported, but may later be open to investigation. Barnes calls this type of hypothesis a “heuristic device”; it is used to further the discussion.³⁰⁵ Importantly, the one hypothesizing is committed neither to the truth nor the falsehood of the claim. Barnes connects a second type of hypothesis to Aristotle, who views a science as a set of demonstrations that explain the truths of a given domain. The demonstrations are ultimately grounded in indemonstrable first principles (*archai*) among which Aristotle counts hypotheses (*An. Post.* 72a15-24). Barnes argues that for later Greeks, the term “hypothesis” comes to be equated with any kind of indemonstrable first principle and that this is the sense in which Sextus is using the term in *Against the Geometers*.³⁰⁶ Although I raised some questions about this view in section 3.1 above, there are several reasons for supposing that Barnes is correct. When Sextus introduces the sense of “hypothesis” against which he will be arguing, he calls it an *archē* of demonstrations and gives as an example, three hypotheses

³⁰⁵Barnes (1990, 92–93)

³⁰⁶Barnes (1990) points to Proclus' commentary on Euclid (76.24-77.3) and Alexander of Aphrodisias' commentary on the *Prior Analytics* (13.7-11) for evidence of this type of usage, which he calls the “broad Aristotelian use” of hypothesis (93-94).

postulated by Asclepiades:

Thus, we say that Asclepiades used three hypotheses to make a case regarding the obstruction that produces fever. First, that there are intelligible pores in us, differing from one another in size. Second, that from all places theorized particles of water and breath are collected together through their eternal restlessness. And third, that some incessant effluences are released from us to the outside, sometimes more, other times less, relative to the current circumstances. (*M III 5*)³⁰⁷

Sextus offers this example in a (rather unsuccessful) attempt to clarify the sense in which he intends “hypothesis.” His use of a medical example suggests that he means hypothesis as a foundational claim, which (among other things) here serves to explain why we become feverish.

In ancient medicine, hypothesis played the role of an explanatory principle long before Sextus' time although its use was controversial in early Greek medical debates. The early medical writers raised questions about the status of foundational claims, often arguing that such hypotheses could not adequately explain the phenomena. For example, the writer of *On Ancient Medicine* (*LM*) begins his treatise casting doubt on those who would posit one or two things as the source of explanation for all disease and death (I.570 L. [=Littré] = 118 J. [=Jouanna]). He says they miss the mark when they claim that all sickness is caused by hot or cold or wet or dry. These so-called hypotheses are not needed, in part, because medicine already understands the source and cause of sickness. Similarly, the author of *On Human Nature* thinks that particular theses lead investigators astray, namely the idea that human nature can be reduced to a single type of matter like

³⁰⁷οὕτω γοῦν τρισὶν ὑποθέσεσι κεχρησθαι φαμεν τὸν Ἀσκληπιάδην εἰς κατασκευὴν τῆς τὸν πυρετὸν ἐμποιοῦσης ἐνστάσεως, μὴ μὲν ὅτι νοητοὶ τινὲς εἰσιν ἐν ἡμῖν πόροι, μεγέθει διαφέροντες ἀλλήλων, δευτέρᾳ δὲ ὅτι πάντοθεν ὑγροῦ μέρη καὶ πνεύματος ἐκ λόγῳ θεωρητῶν ὄγκων συνηράνισται δι' αἰῶνος ἀνηρεμήτων, τρίτῃ δὲ ὅτι ἀδιάλειπτοί τινες εἰς τὸ ἐκτὸς ἐξ ἡμῶν ἀποφοραὶ γίνονται, ποτὲ μὲν πλείους ποτὲ δὲ ἐλάττους πρὸς τὴν ἐνεστηκυῖαν περίστασιν. (*M III 5*)

blood or bile (VI 34L = 166J). While he does not call such claims “hypotheses”, it is clear that the theorists involved have posited some basic explanatory principle like “Everything is reducible to X”, where X is a single type of matter. The author argues that such theories cannot explain the phenomena.

The controversy surrounding hypotheses in ancient medicine involved their ability to explain and thereby aid in diagnosis and prognosis. But philosophically speaking, the controversy also involved how one might come to know these principles. One relatively clear answer comes from Aristotle. He conceives of hypotheses as indemonstrable first principles; they are indemonstrable in the sense that there is no explanatory syllogism that can be given for them.³⁰⁸ Scientific understanding (*epistēmē*)³⁰⁹ of something, Aristotle says, generally comes about when we grasp of the explanation for it, that it must be its explanation (*Post. An I 2 71b10-14*). Aristotle demands that an explanation be in the form of a demonstration or syllogism, so we understand something scientifically if we understand its demonstration, that is, why it is true, and we understand of the demonstration that it must be its demonstration. But, Aristotle admits that some things cannot be known through demonstration. These indemonstrables are the immediate principles of the science. Toward the beginning of the *Posterior Analytics*, Aristotle distinguishes between two types of first principle, calling one type hypothesis (*hupothesis*) and the other, definition (*horismos*) (72a18-21). Although Aristotle does not make the distinction between these utterly clear,³¹⁰ by

308It is important for the Aristotelian use that a) the hypothesis is posited as true and b) the hypothesis is not only unsupported, but unsupportable.

309On this translation of the term *epistēmē* in the *Posterior Analytics*, see Burnyeat (1981).

310For a discussion of the interpretative issues, see Barnes (1994, 100–101).

hypothesis, he seems to mean a claim about something (i.e. “that x is F”), while by definition, he seems to mean a claim about “what x is” which does not thereby affirm that there are any instances of x (71a11-17). Later, Aristotle admits that a hypothesis need not be strictly speaking indemonstrable, distinguishing between what is hypothesized *simpliciter* vs. hypothesized relative to the learner (76a23-34). The latter may be demonstrable, but simply undemonstrated from the standpoint of the current discussion. Those claims that are hypothesized *simpliciter* are truly indemonstrable principles.³¹¹

Scientific understanding, as Aristotle develops his view in the *Posterior Analytics*, is disjunctive. Some scientific claims are known when we understand of their explanatory demonstrations that they are the demonstrations. But other claims – the *archai* – are known without being explained by a demonstration. Thus, Aristotle represents one of the clearest expressions of foundationalism in ancient science. He discusses how we come to understand these indemonstrables eventually in *Posterior Analytics* II 19 where he describes a process that involves repeated perceptions forming memories that combine into experience. The first principles of a science are grasped in some way through this experience; Aristotle calls the process *eisagogē* (100b3-5).³¹² Thus, a proper science for Aristotle consists of a) the indemonstrable first principles known through *eisagogē* and b) the body of knowledge that is inferred from those principles which explain the knowledge through their demonstrations. He claims that demonstrative understanding must proceed from what is true, primitive (*prōtos*), immediate, more familiar than, prior

³¹¹For a more in-depth discussion of Aristotle's philosophy of science, see Hankinson (1995b), as well as the commentary in Barnes (1994). The Proceedings of the 8th Symposium Aristotelicum edited by Berti (1981) provides several foundational essays on this topic.

³¹²On Aristotle's account of *eisagogē* and the role of *nous* in grasping the scientific foundations, see Kahn (1981) and Leshner (1973).

to (*proterōn*) and explanatory of the conclusions (71b19-22). He equates what is “primitive” with the first principles (*archai*), and then calls an *archē* an “immediate proposition of a demonstration” where being immediate means “there is no other proposition prior” (72a6-8), that is, there is no further explanatory middle term.³¹³ Propositions are prior, in the sense of being explanatory, when they are already understood and known to be true (71b29-33).

Aristotle considers a criticism of his view of the nature of scientific knowledge which is related to our discussion of the Agrippan modes: What if there are no foundations? Aristotle says that some people claim that scientific understanding is possible *only* through demonstration. That is, something is known scientifically only if there is a syllogism that explains it. But, if this is the case, then it looks like there are two possible conclusions. Either, there is no *epistēmē* at all because every premise in a demonstration must be understood through another demonstration prior to the demonstration in question and the premises of that demonstration understood prior to that, and so on *ad infinitum*.³¹⁴ But it is impossible to go through infinitely many demonstrations, so it is impossible to understand anything (72b7-11). Or else, explanations must be circular such that it is possible that what explains may itself be explained by what it explains. That is, one must deny that the explanans is *prior* to the explanandum (72b15-18).

Aristotle argues against a coherence theory of explanation, saying that if circular

³¹³I use the Barnes (1994) translation of the *Posterior Analytics*, sometimes with modification.

³¹⁴A version of this regress argument has actually been used to criticize modern foundationalists about justification. For one version of this critique, see Bonjour (1978).

explanation is possible, then the explanans will be both prior and posterior to the explanandum, which he says is impossible (unless they are prior and posterior in different ways) (72b25-30). One might think that Aristotle is wrong about this since a given premise can both imply and be implied by another. If prior and posterior pick out a mere logical relation (e.g. implication), then he is surely wrong. But it is clear from his definition of priority above, that he means epistemic priority, so his point seems to be that the explanans will be epistemically inert unless it is already known to be true prior to its use in the explanation.³¹⁵

In addition, there is the well known worry about coherence theories, that they do not seem to hook onto the world. That is, the fact that a set of beliefs are coherent seems to be no reason to think that they are thereby true.³¹⁶ The way Aristotle puts it is that one can show anything to be the case if circularity is allowed. He proceeds to construct an argument for A by showing that A implies B which implies C, and C implies A, so A must be the case (72b31-73a6). Thus, if the priority criterion is not required for explanation, then it looks like the circularity theorist will be able to show that anything (including a falsehood) is true. With this indictment, Aristotle sets aside the coherence theory.³¹⁷

Having argued against circularity and insisted that we can have scientific

³¹⁵Barnes (1994) discusses this argument and wonders whether epistemic priority is asymmetrical and transitive (108). He discusses this further in Barnes (1990, 77–87) where he concludes that it is “at best unclear whether epistemic priority is asymmetrical and transitive” (87).

³¹⁶Dancy (1985) gives a good introduction to this problem in chapter 8 (esp. §8.3). See also chapter 9 in Bonjour (2002) for another good introduction (esp. 207-209). Bonjour (2002) suggests that the coherentist's best response will involve an appeal to the best explanation: “If ... the coherentist account of observational input can be successfully elaborated and defended, then the coherentist can attempt to argue that the best explanation for the long-run coherence of a system of beliefs in the face of continued observational input is that the beliefs in the system are being systematically caused by an external reality that they accurately depict, and hence that they are likely to be true” (209).

³¹⁷For a general account (and tentative defense) of a coherence theory of justification, see Bonjour (1976).

understanding, Aristotle concludes that there must be foundations to the science. These are the indemonstrable first principles:

We assert that not all understanding is demonstrative: rather, in the case of immediate items understanding is indemonstrable. And it is clear that this must be so; for if you must understand the items which are prior and from which the demonstration proceeds, and if things come to a stop at some point, then these immediates must be indemonstrable. (*An. Post.* 72b18-22)

The picture of scientific understanding that Aristotle sketches, then, is foundational in the sense that certain scientific truths are indemonstrable, but they can be understood in a non-demonstrative way. The collection of these foundational claims explains everything else in the scientific domain.

It is understandable that many scholars have connected these Aristotelian arguments with the modes of Agrippa, since the mode of infinite regress and the reciprocal mode are reminiscent of Aristotle's arguments against regress and circularity respectively.³¹⁸ One reason to reject any close relation between the skeptical modes and Aristotle is that his arguments are dogmatic and presuppose substantive commitments regarding rationality about which the skeptic should suspend judgment. In addition, I raised some questions in the previous section about the purported relationship between Aristotle's foundations (that is, his *archai*), and the type of hypotheses that the hypothetical mode attacks. In any case, I will show that the type of hypotheses that Sextus attacks in *Against the Professors* cannot be Aristotelian foundations.

Before returning to the role that hypotheses played in investigation and methods of inquiry, it may be worth mentioning something about the Hellenistic schools since

³¹⁸For example, Barnes (1990, 120–122); Hankinson (1995a, 187–189); and especially Long (1981).

Sextus targets them as well as the Peripatetics. Aristotle, in some sense, sets the standard for a foundational view of empirical science. Later Greek philosophers generally accepted the need for explanatory first principles, and they debated both about the nature of those first principles and about how we come to know them. Epicurus, for example, instructs Pythocles to submit to the contemplation of the *archai* (as well as infinity, the criterion of truth, affections, and the purpose for all of these things) because contemplating these things will aid in understanding particular explanations (*aitia*) (DL X 116).³¹⁹ The purpose of natural science (*physiologia*), Epicurus tells Herodotus, is to get precise about the explanation for those things which are most significant because our happiness depends on them (DL X 78). Stoic science was similarly empirical in that a particular science (or *epistēmē*) is a system built up from apprehensive impressions (*phantasiai katalēptikai*), some of which come from sensory perception.³²⁰ The details of Stoic epistemology are controversial, and they appear to have developed throughout the Hellenistic period as the Stoics debated with each other and with other schools.³²¹ But, for

319As Hicks translates in the Loeb edition, “But above all give yourself up to the study of first principles and of infinity and of kindred subjects, and further of the standards and of the feelings and of the end for which we choose between them. For to study these subjects together will easily enable you to understand the causes of the particular phenomena. And those who have not fully accepted this, in proportion as they have not done so, will be ill acquainted with these very subjects, nor have they secured the end for which they ought to be studied.” Here is the Greek: μάλιστα δὲ σεαυτὸν ἀπόδος εἰς τὴν τῶν ἀρχῶν καὶ ἀπειρίας καὶ τῶν συγγενῶν τούτοις θεωρίαν, ἔτι δὲ κριτηρίων καὶ παθῶν καὶ οὐ ἔνεκεν ταῦτα ἐκλογιζόμεθα· ταῦτα γὰρ μάλιστα συνθεωρούμενα ῥαδίως τὰς περὶ τῶν κατὰ μέρος αἰτίας συνορᾶν ποιήσει. οἱ δὲ ταῦτα μὴ καταγαπήσαντες ἢ μάλιστα οὔτ' <ἂν> αὐτὰ ταῦτα καλῶς συνθεωρήσαιεν οὔτε οὐ ἔνεκεν δεῖ θεωρεῖν ταῦτα περιεποιήσαντο. DL X 116

320For example, Stobaeus records Arius Didymus describing it like this: “Scientific knowledge [*epistēmē*] is an apprehension [*katalēpsis*] which is secure and unchangeable by reason. It is secondly a system of such *epistēmai*, like the rational cognition of particulars which exists in the virtuous man. It is thirdly a system of expertise from such *epistēmai*, which has intrinsic stability, just as the virtues do. Fourthly, it is a tenor for the reception of impressions which is unchangeable by reason, and consisting, they say, in tension and power.” (SVF 3.112 = LS41H, translation after Long and Sedley)

321On this history and Stoic epistemology in general, see Annas (1990), Frede (1983), Hankinson (2003), Long and Sedley (1987).

our purposes here, it is quite clear that the Stoics were epistemological foundationalists: They claimed that some *katalēpsis* occurs by perception, and some by reason (*logos*) through demonstration (DL VII 52).

Although the Aristotelian picture of scientific understanding becomes, in some sense, the standard for philosophy of science in later Hellenistic and Roman times, the details of that picture were certainly controversial. One controversy involved the way in which the foundations come to be known.³²² Hypothesis also plays a role in this debate insofar as there was disagreement about whether (and in what way) assuming something could ever help one reach the truth. We can pick up this debate in Plato.

In the *Meno*, Plato has Socrates use a hypothetical method in his investigation about whether virtue can be taught. He claims that when geometers are faced with a question like “whether a specific area can be inscribed in the form of a triangle within a given circle”, they will posit a claim like

If that area is such that when one has applied it as a rectangle to the given straight line in the circle it is deficient by a figure similar to the very figure which is applied, then I think one alternative results, whereas another results if it is impossible for this to happen (*Meno* 86e4-87b2; trans. Grube).

In other words, the geometers posit a conditional claim that has as its consequent the conclusion they seek. If they want to know whether Q is true, then they posit “If P, then Q”. The method has the effect of moving the investigation to the antecedent of the hypothesis, in this case P. Typically, the antecedent will be something that is easier to answer. In the *Meno*, Socrates posits that “if virtue is a kind of knowledge (*epistēmē*), it is

³²² Among the Hellenistic philosophical schools, much of the debate centered around the criterion of truth. For more on the criterion of truth, see n18 above.

clear that it could be taught” (87c5,6). This has the effect of shifting the question from whether virtue can be taught (with which the dialogue begins) to whether it is a type of knowledge.

It is important to note that the hypothesis in the previous question, which has a kind of conditional structure, is not itself justified. Socrates and Meno simply agree that it is clear that “a person is not taught anything but *epistēmē*” (87c2,3) without attempting to support this claim. In the *Phaedo*, the epistemic status of hypotheses comes into question. After hearing the objections from Cebes and Simmias, Socrates begins his digression about Anaxagoras and what kind of explanations are adequate. He sought the teleological explanation offered by Anaxagoras, but he was disappointed when he found that *nous*, which Anaxagoras claims is the cause of all, did not figure in the particular explanations for how things came to be or were destroyed. Instead, Anaxagoras simply used the same types of explanations (i.e. material and efficient) that Socrates had found inadequate (*Phaedo* 97b8-99a4). In contrast, Socrates says he wants an explanation for why things happen in terms of what is best. Since no such explanation is available to him, he sought the “second best” explanation (99a4-d2):

However, I started in this manner: taking as my hypothesis in each case the theory [*logos*] that seemed to me the most compelling, I would consider as true, about cause and everything else, whatever agreed with this, and as untrue whatever did not so agree. (100a2-7, *Phaedo* trans. Grube)

Socrates explains here that the hypothetical method involves positing of a position and then investigating what “agrees” or “disagrees” with that position. He goes on to posit the existence of the Beautiful itself, and that nothing is beautiful except insofar as it stands in

some relation to the Beautiful (he is intentionally vague about the relation, describing it as “presence” or “sharing”). Grube's translation of *logos* in the passage above makes Socrates say that his hypothesis involves the assumption of an entire theory (in the context of the *Phaedo*, it would seem to be a theory of formal causation), rather than the positing of a single conditional as we saw in the *Meno*. Socrates says that anything that agrees with the *logos* is thought to be true, and whatever disagrees with it is considered false. Clearly, the meaning of *logos* in the passage above will affect our understanding of the notion of “agreement” and “disagreement” that Socrates is using.

There seems to be a couple of ways we could take “agreement” and “disagreement” in this passage: Agreement could mean mere consistency or it could mean something stronger like implication.³²³ The latter possibility would have Socrates saying that the method involves the working out of the implications of the theory. This suggestion runs into problems when we consider the meaning of the notion of “disagreement” in the quote above. As Robinson points out, it would be very strange if Plato thought that, because a given theory did not imply a claim, it was thereby false.³²⁴ Robinson thinks that this problem tells in favor of reading “agreement” in terms of consistency. That is, the method involves taking as true anything that is consistent with the theory and taking as false anything that is inconsistent with it. But this seems equally strange because, unless the theory is a “complete” theory (that is, a theory of the universe and everything), there will be many claims that are consistent with it, but are completely unrelated. It would be strange if Plato thought the method of hypothesis *required* one to

³²³These options are suggested by Robinson (1941, 131).

³²⁴Robinson (1941, 132).

posit a complete theory of the universe in order to investigate some limited topic e.g. the immortality of the soul, or the properties of triangles.

As a result, I think that the correct reading of “agreement” is in terms of implication, but that disagreement should not be understood as “not implying”, but as implying the opposite. That is, if the hypothesis P implies the claim Q, then Q is taken to be true. But, by the same token, not-Q is taken to be false. Given what Socrates says later, it looks as if he thinks we should investigate the implications of the *logos*. After discussing the way in which certain properties are caused by “sharing in” the particular form in question, he raises the possibility that someone might object:

But you, afraid, as they say, of your own shadow and your inexperience, would cling to the safety of your own hypothesis and give that answer. If someone then attacked your hypothesis itself, you would ignore him and would not answer until you had examined whether the consequences that follow from it [*ta ap'ekainēs hormēthenta*] agree with one another or contradict one another. And when you must give an account [*logos*] of your hypothesis itself you will proceed in the same way: you will assume another hypothesis, the one which seems to you best of the higher ones *until you come to something acceptable* [*hikanon*], but you will not jumble the two as the debaters do by discussing the hypothesis and its consequences at the same time, if you wish to discover any truth. (101c9-e5 – my emphasis).

Here Socrates suggests that the implications of the hypothesis should be examined.

However, again, Robinson points to a puzzle here: Why think that the implications of a hypothesis will contradict one another?³²⁵ Unless the hypothesis itself is contradictory, it should not imply a contradiction. There are several possible answers to this puzzle.

Perhaps Socrates is being loose when he says we will examine (only) the consequences of the theory. Perhaps he also assumes we will continue to hold our everyday beliefs in the

³²⁵Robinson (1941, 135).

background, and if the hypothesis conflicts with something else we hold, then that will count as a disagreement with the original hypothesis. Alternately, the *logos* in question may not be a single simple claim, but a collection of claims – that is a theory, as I suggested above – in which case, the contradiction may be derivable from the implications of multiple claims.³²⁶

Thus, on my view, the hypothetical method in the *Phaedo* involved positing as true a claim (or a group of claims), and then examining what follows from those claims. Moreover, as Socrates says at the end of the passage above, one might be asked to give a *logos* of or justify the original hypothesis. When this happens, one must try to support it with another hypothesis which is the “best of the higher ones until you come to something acceptable.” In this, I agree with Robinson that the acceptability of the final hypothesis seems to be relative to the dialectic. If one's interlocutor agrees with the current hypothesis, there is no need to go looking for another. It is only when the current hypothesis comes under dispute that one must seek a justification.³²⁷

It should be clear from this discussion that the hypothetical method of the *Phaedo* is only *relatively* foundational. An absolute foundation would be the “highest” hypothesis in the sequence. But Socrates indicates that the hypotheses stop when the interlocutors land on an “acceptable” hypothesis. If the acceptable hypothesis is one unquestioned by the interlocutors, then, from their perspective, it is one that needs no account (*logos*) to justify it. If no other justification is requested, then the discussion remains at the current

³²⁶Robinson (1941) dismisses both of these possibilities in favor of the view that the method of hypothesis only involves determining what is consistent with the hypothetical claim (134-136).

³²⁷Robinson (1941, 144).

level and the current hypothesis is unjustified or unexplained. It may or may not be indemonstrable or inexplicable. Such a method has no commitment to there being first principles.

When Plato describes the hypothetical method in the context of the “Divided Line” in the *Republic*, he makes his commitment to first principles clear. In this familiar section, Plato has Socrates construct a hierarchy of intellectual and perceptual faculties and activities in which only the highest intellectual faculty (*nous*) achieves the *archai*, that is the fundamental principles. The intermediate intellectual faculty (*dianoia*), which makes use of the method of hypothesis, is clearly second best:

Consider now how the section of the intelligible is to be divided. ...As follows: In one subsection, the soul, using as images the things that were imitated before, is forced to investigate from hypotheses, proceeding not to a first principle but to a conclusion. In the other subsection, however it makes its way to a first principle that is not a hypothesis [*anhupotheton*], proceeding from a hypothesis but without the images used in the previous subsection, using forms themselves and making its investigation through them. (*Republic* 510b2-9; trans. Grube, revised by Reeve)

The intelligible activity of *dianoia* involves investigating what follows from hypothesis and ends at a conclusion (*teleutē*), not a first principle (*archē*), whereas *nous* involves investigating from a hypothesis and moving to an *archē* that is unhypothetical. While the two realms of thought are partly distinguished by their respective end points, they are also differentiated by their intellectual resources. The activity of *dianoia* makes use of perceptible things as if they reflected the intelligible objects (cf. 510d5-511a1) whereas *nous* uses the forms themselves.

Both types of intellect begin with hypothesis, but, when Socrates attempts to

clarify the difference between *dianoia* and *nous*, he explains that the paradigm examples of *dianoia*, geometers and mathematicians, fall short of the highest intellectual activity insofar as they fail to give an account (*logos*) of their hypotheses. The hypotheses of the geometers and mathematicians seem to be selected as if they are clear (*phaneroi*) to everyone. In contrast to this, Socrates expands on the activity of *nous*:

Then also understand that, by the other subsection of the intelligible, I mean that which reason [*logos*] itself grasps by the power of dialectic. It does not consider these hypotheses as first principles [*archai*] but truly as hypotheses—but as stepping stones to take off from, enabling it to reach the unhypothetical [*anhupotheton*] first principle of everything. Having grasped this principle, it reverses itself and, keeping hold of what follows from it, comes down to a conclusion without making use of anything visible at all, but only of forms themselves, moving on from forms to forms, and ending in forms. (511b3-511c2)

Glaucou, then, responds:

I understand, if not yet adequately (for in my opinion you're speaking of an enormous task), that you want to distinguish the intelligible part of that which is, the part studied by the science of dialectic, as clearer than the part studied by the so-called sciences, for which their hypotheses are first principles. And although those who study the objects of these sciences are forced to do so by means of thought rather than sense perception, still, because they do not go back to a genuine first principle, but proceed from hypotheses, you don't think that they understand them, even though, given such a principle [*archē*], they are intelligible. And you seem to me to call the state of the geometers thought [*dianoia*], but not understanding [*nous*], thought being intermediate between opinion [*doxa*] and understanding. (511c3-511d5)

From Socrates' description and Glaucou's response, we can see that Plato thinks the geometers consider their hypotheses to be first principles, truths which are used to prove and explain the rest of the science. In contrast, *nous* does not take hypotheses to be *archai*, but uses them somehow to reach the true first principle. The philosopher then regards (and truly understands) what follows from the *archai*.

Socrates raises two main problems with the geometer's method in his discussion of the divided line. The first is that they regard their hypotheses as *archai* even though they have not given an account of them. This is a question of justification; although the geometric hypotheses may seem obvious, that clarity does not explain or justify them. If understanding occurs only when we can give an account (*logos*) for a given claim, then geometers cannot claim to understand their science. Part of the reason for this failure is related to the second problem, namely the use of objects (i.e. drawings of geometric figures) in order to reason about the properties of figures themselves. Since the geometers take physical objects as images of the intellectual objects, they are bound to remain without true understanding.

If we combine this discussion of the *Republic* with that of the *Phaedo*, we can conclude several things about the use of hypothesis and the role of foundations in Plato and (perhaps) ancient geometry. First, Plato thinks that the geometers are foundationalists about their science, in much the same way as we saw in Aristotle. He indicates that they take their hypotheses to be first principles and their geometric knowledge is derived from those principles. Plato accuses the geometers of not truly understanding the hypotheses because they simply assume them without giving them an account. But Plato does suggest that the geometers pick hypotheses that are clear and apparent to everyone, which at least suggests the possibility that they were disjunctivists about understanding, much in the same way that Aristotle is.

Plato claims that what distinguishes his methodology from that of the geometers is, in part, an attitude toward the hypotheses. In both cases, the hypotheses are posited

and supposed to be true. But while Plato claims that the geometers believe their hypotheses are actually true (whether that is what geometers really thought, we'll set aside for now), Plato's dialectic does not assume the truth of the hypotheses. Instead, after using the hypotheses to reach the first principle, the *archē* is then used to draw conclusions. Thus, the dialectical process seems to have two parts. The first is a process of discovery: The philosopher discovers the higher hypotheses and, ultimately, the *archē*. The second is a process of justification or explanation: The *archē* is used to explain the remaining claims of the science.

This means that, by the time Plato wrote the *Republic*, he clearly considers the noetic grasp of the first principle(s) the basis for all understanding. Plato explicitly denies that hypotheses are identical with the *archai*; instead, he claims that the first principle is unhypothetical (*anhupotheton*). In what sense is Plato's highest principle unhypothetical? It is not entirely clear. It cannot have this status in virtue of having a *logos* derived from a higher principle because it is itself the highest principle. It is similar to the geometers' hypotheses insofar as it is not given an account. But on Plato's view, whereas hypotheses are understood on the basis of higher principles, the first principle comes to be known by examining the lower principles, and I think this must be what distinguishes it from the hypotheses. The *archē* is grasped by the faculty of *nous*. So, it is not simply posited without knowing whether it is true (which characterizes the geometer's hypotheses).

How the first principle is grasped is entirely unclear. Socrates says that the dialectic proceeds from the hypotheses “as stepping stones to take off from”. Some have suggested that what Plato has in mind here (even if he himself was not very clear on this)

is a kind of transcendental deduction whereby one considers what must be for the current hypothesis to be true. This process repeats until the first principles are reached.³²⁸

I do not mean to imply by my discussion of Plato's understanding of hypothesis that we should simply take Plato at his word when he contrasts the geometric methodology with his own. Plato accuses the geometers of his day of accepting indemonstrable first principles, but it is not at all clear that later geometers understood their hypotheses in this way. Further, it is possible that some geometers changed their methods in light of philosophical critiques like Plato's.

Robinson has argued that the geometric practices of “analysis” and “synthesis” differed from Plato's hypothetical method described above.³²⁹ For these later geometers, hypotheses were posits, not simply assumed to be true, but granted for the purposes of the proof. The method of analysis involved reasoning from the hypothesis, inferring what follows from it, until the geometer reached some claim that was previously known on independent grounds.³³⁰ This principle, then, was the *archē* of the synthesis which would involve reasoning back to the original hypothesis, and showing that it follows from the *archē*. In this case, the hypothesis is something to be proven. It is both the starting point of the analysis and the conclusion of the synthesis. Proving the hypothesis requires both the analysis and the synthesis since the hypothesis is taken to be proven only at the end of

³²⁸See Hankinson (1998, 106). In any case, it is less important for my purposes how the *archē* is achieved. It is enough to show that Plato was a foundationalist that he thought understanding is only achieved by immediately grasping the *archē*.

³²⁹Robinson (1969).

³³⁰I should note that Robinson's claim that the hypothesis implies the *archē* is controversial and depends on a particular reading of Pappas of Alexandria. I discuss the Pappas passage in more detail in the next section.

the synthesis.³³¹

Thus, we have roughly three ways of being a scientific foundationalist among the ancient schools. Aristotle calls his “hypotheses” first principles, which are grasped by experience, that is broadly-speaking empirically, and which deductively explain the remainder of scientific knowledge through demonstrative syllogisms. Plato's first principles are – in a sense – derived from hypotheses, but are known through a vaguely defined intellectual process, perhaps like a transcendental deduction. These *a priori* principles also explain everything that can be understood. The geometer's hypotheses, like Plato's, are posits which are assumed to be true for the purposes of investigation. But, unlike Plato's hypotheses, those of the geometers both imply the principle which is the conclusion of analysis and are implied by that principle in the synthetic demonstration. The process of analysis and synthesis moves from the hypothesis, to a first principle, and back again.³³²

In the previous section, I argued that the five modes of Agrippa are a practical guide to skeptical suspension, which is produced when an undecided disagreement is presented and examined. If a dogmatic interlocutor attempts to end the disagreement by

331Some scholars have thought that geometers cannot have intended the deduction to go in both directions and presumed that the analysis must proceed by intuition while the synthesis clearly involves deductive inference. Robinson specifically targets the Cornford (1932) interpretation. But, this assumes that the analysis did not involve reasons that provided both necessary and sufficient conditions. I should add that much of the recent work on analysis in ancient geometry emphasizes that the actual practice of geometers is much more complex than what is described by Pappas of Alexandria, for example. In any case, I discuss geometric analysis further in the next section when I examine Sextus' attack on hypothesis.

332One might object that there does not seem to be a substantive difference between the geometer's method and Plato's (aside from the fact that the Plato denies that the lower hypotheses justify the higher principles). But, they are different insofar as the geometric method is isolated to a particular theorem or problem, and so the geometric *archē* only grounds the hypothesis to the extent that it is itself known. This will become important in Sextus' attack on the geometers.

appealing to a foundational claim, the skeptic will use one of the modes to continue the debate; in particular, the skeptic will use the mode of relativity, the hypothetical mode and the reciprocal mode to raise questions about dogmatic *archai*. We can see that the mode of relativity and the reciprocal mode correspond roughly to Aristotelian and Platonic foundations respectively. However, the hypothetical mode is different. It does not correspond to the geometric first principles, the claims which are found at the end of analysis and which ultimately justify the hypotheses in the synthesis. Rather, the hypothetical mode targets the very beginning of analysis (*archē* in another sense), since it raises questions about supposing anything without support.

What I am suggesting now is that the hypothetical mode was used, not to combat the geometric first principles (that is, their axioms and postulates). Rather, the hypothetical mode is used to undermine the starting point of geometric proofs, where the proof assumes what is intended ultimately to be proved, and demonstrates it by connecting it to a principle that is taken as established. If I am right about this, it has important consequences for our understanding of *M* III. It suggests that the modes of Agrippa were not only effective at undermining the first principles of dogmatic science, but that the skeptics also used the modes to combat what we might call methodological foundationalism. By “methodological foundationalism”, I mean a discipline that takes a particular method as a means for revealing the truth. In a sense, the geometers as I have described them in this section seem to have been both foundationalists in Aristotle's sense of taking clear and evident claims as axioms and postulates for the rest of their science, and also foundationalists in the methodological sense of using their hypothetical method

to discover new truths that follow from the axioms. In the next section, I will argue that the opening of *M III* was meant to attack geometer's methodological commitments and not their axioms.

3.4 The Skeptical Attack on the Hypothetical Method (*M III* 7-18)

As we've seen, there is some question about the meaning of hypothesis and *archē* in *Against the Geometers*, and the answer to this question will affect our understanding of what Sextus is doing in this book. Although Barnes gives reasons that suggest the hypotheses Sextus attacks at *M III* 7-18 are geometric first principles, that is, their axioms and postulates, I think that the arguments are better interpreted as attacking the geometer's hypothetical method. In this section, I will begin by arguing for this claim, and then I will interpret the arguments themselves in light of this.

There are a number of reasons to think that Sextus has the hypothetical method in mind when he attacks hypothesis in *Against the Geometers*. He begins the book, saying:

Since the geometers, when they see the multitude of difficulties [*aporiai*] that pursue them, flee for safety to a thing that seems secure and free from danger, namely, postulating from hypothesis the starting points [*archai*]³³³ of geometry, it would be well for us also at the beginning of the refutation against them to set down the argument about hypothesis. (*M III* 1)³³⁴

The first clue that Sextus wants to attack the geometric method is his claim that the

³³³Barnes (1990, 95) translates the word ἀρχή here as “first principle”, and it can certainly mean a foundational, indemonstrable principle of a science. However, it could also simply mean the first premise in a demonstration. Thus, I use the phrase “starting point” in order to capture the ambiguity of the term.

³³⁴Ἐπεὶ οἱ γεωμέτραι συνορῶντες τὸ πλῆθος τῶν ἐπακολουθούντων αὐτοῖς ἀποριῶν εἰς ἀκίνδυνον εἶναι δοκοῦν καὶ ἀσφαλὲς πρᾶγμα καταφεύγουσι, τὸ ἐξ ὑποθέσεως αἰτεῖσθαι τὰς τῆς γεωμετρίας ἀρχάς, καλῶς ἂν ἔχοι καὶ ἡμᾶς τῆς πρὸς αὐτοὺς ἀντιρρήσεως ἀρχὴν τίθεσθαι τὸν περὶ τῆς ὑποθέσεως λόγον. (*M III* 1)

geometers seek safety in an activity (i.e. postulating). He does not say that they think their hypotheses are secure; it is the *postulating* of claims that reassures them. Moreover, while the *archai* referred to here could mean the geometric axioms, as Barnes suggests, when Sextus refers to the geometric *archai* at *M* III 18, he goes on to talk about the conceptual starting points of geometry, namely, the point, line and plane. These are the very things that Sextus says have the *aporiai*:

While we proceed with what is next, let us teach that the starting points [*archai*] of their art are false and unconvincing. Indeed, since there are many possible things to say for this purpose, *as we said when we began the treatise*, the matters with difficulty [*aporiai*] will be brought to them, those matters which, when they are destroyed, will also destroy together the remainder [of the craft]. So, since if the starting points are discredited, the particular demonstrations will not be able to make progress, we should recount the fitting [arguments] against the starting points. (*M* III 18 – my emphasis)³³⁵

If Sextus is talking about the same *aporiai* and the same *archai* at *M* III 1 and 18, then we must conclude that at *M* III 1 Sextus says the geometers recognize that there are conceptual difficulties with the point or the line or the plane, yet they think they can avoid these problems by postulating them from hypothesis. My question is: What is it about positing something from hypothesis that makes them think they can avoid these difficulties?³³⁶ There must be something about postulating that helps geometers avoid the

335μετελθόντες δὲ ἐξῆς διδάσκωμεν ὅτι ψευδεῖς καὶ ἀπιθάνους αὐτῶν συμβέβηκεν εἶναι τὰς ἀρχὰς τῆς τέχνης. καὶ δὴ πολλῶν εἰς τοῦτο δυναμένων λέγεσθαι, ὡς ἐναρχόμενοι τῆς ὑφηγήσεως εἴπομεν, τούτοις προσαχθήσεται τὰ τῆς ἀπορίας ὧν ἀναιρουμένων καὶ τὰ λοιπὰ συναναιρεθήσεται. ἐπεὶ οὖν τῶν ἀρχῶν διαβληθεῖσιν οὐδὲ αἱ κατὰ μέρος ἀποδείξεις αὐτοῖς δύνανται προκόπτειν, λέγωμεν τὰ ἀρμόζοντα πρὸς τὰς ἀρχάς. (*M* III 18)

336Someone might object at this point that I am taking Sextus at his word and assuming that he speaks for the geometers. Nothing could be further from the truth. I am not at all concerned here with what actual geometers think. What I am trying to understand is Sextus' reasoning. Another way to put my question is this: Why would Sextus say that geometers think they can avoid the *aporiai* by postulating hypotheses unless he thinks that they think the hypothetical method brings certainty. Of course, Sextus does not himself believe that hypotheses bring certainty, but he does not have reason to attack hypothesis unless he thinks that the geometers take it to be a way of securing the truth. And he clearly does think that they think that.

difficulties, and I suggest that it is the fact that they think their assumptions will be validated; they intend to prove their assumptions through the joint method of analysis and synthesis.³³⁷

Further evidence for my view – that Sextus is attacking the hypothetical method and not the axioms and postulates of geometry – comes at the end of the section. When he sums up his arguments against hypothesis, Sextus says: “And from these [arguments] it is sufficiently established that the professors do not do well when they accept the starting points [*archai*] of their demonstrations and of their theorems from hypothesis, saying 'let it be granted' [*dedosthō*]” (*M* III 17b).³³⁸ It is the word *dedosthō* that interests me here. This particular expression never appears in Euclid (this surprised me).³³⁹ However, it is an expression used by other geometers and astronomers.³⁴⁰ Archimedes uses it in some of his proofs. Take, for example, the following problem statement:

So similarly we shall prove that given two unequal magnitudes and a sector it is possible to circumscribe a polygon around the sector and to inscribe another similar to it, so that the circumscribed has to the inscribed a smaller ratio than the greater magnitude to the smaller. (*de Sphaera et Cyindro* 1.6, trans. Netz)

Archimedes begins this proof saying, “Let there be given [*dedosthō*] a circle A, and some area, B.” In this case, the posit is simply the existence of a circle and an area. Nothing is

337This helps make sense of the rest of Book III as well: The book is roughly divided into the section attacking the hypothetical method (*M* III 3-18), and the section attacking the presuppositions of the hypotheses (*M* III 18-107) with a coda attacking a couple of theorems (*M* III 108-113).

338Καὶ δὴ ὅτι μὲν οὐκ εὖ ποιοῦσιν οἱ ἀπὸ τῶν μαθημάτων ἐξ ὑποθέσεως λαμβάνοντες τὰς ἀρχὰς τῆς ἀποδείξεως καὶ ἐκάστου θεωρήματος, ἐπιφθεγγόμενοι τὸ ‘δεδοσθῶ’, διὰ τούτων αὐτάρκως κατεσκεύασται· (*M* III 17b)

339Sextus himself uses the expression several times; it is one of the ways that he concedes a point against which he has been arguing in order to go on and argue something further. For example, in *Against the Rhetoricians*, Sextus spends several sections (*M* II 89-105) developing arguments against the idea that rhetoric has three parts: the juridical, the deliberative and the laudatory. But then, he grants (δεδοσθῶ) that these are the parts of rhetoric at *M* II 106 in order to argue against the role of demonstration in rhetoric. See also *M* VII 381, VIII 183, 402, X 255.

340Ptolemy uses it several times in the *Almagest* 1,1.90,93, 241,385; 1,2.201.

claimed about these figures. Other examples in Archimedes are similar.³⁴¹ Although he does not use the term *dedosthō* often, Archimedes commonly begins a proof using terms like *estō* (“let it be...”), or *ekkeisthō* (“let it be set out...”) when he introduces a figure, and indeed, these are types of third person imperatives that Euclid utilizes to posit a figure at the beginning of a proof. Obviously, these posits are not geometric axioms. Rather, they represent the starting point of a proof that will solve a problem or demonstrate a theorem.³⁴²

It seems strange to me – at least initially – that Sextus thinks his arguments against hypothesis apply to these suppositions. Consider Euclid's proof in *Elements* I 10, “to bisect a line”: The proof begins “Let there be a finite straight line AB.”³⁴³ What is the supposition? It cannot be the imperative statement since Sextus claims that the skeptic will posit the opposite (*M* III 8), but we cannot make sense of the mode if he means the skeptic will demand “Do not let there be a finite straight line AB.” In what sense can conflicting imperatives be credible? Moreover, it would be strange to suggest that the skeptic would posit “there is not a finite straight line AB” to the geometers’ “there is a finite straight line AB”, since, if the geometers assert anything, they only claim that we can conceive of such a thing. The geometric *dedosthō* is really a request for us to imagine a finite straight line. Put another way, the geometric proof at *Elements* I 10 is a conditional proof. It shows that if there are any finite straight lines, then it is possible to bisect them. That is not to say that there are such things. In order to oppose the initial

³⁴¹Archimedes *de Sphaera et Cylindro* 2.4; *de Conoidibus et Sphaeroidibus* 1.171, 198, 200; *de Lineis Spiralibus* 2.17, 19, 20, 21, 22; *de Planorum Aequilibriis* 2.111.

³⁴²On the distinction between problems and theorems, see Pappas *Collection* III 1 See also chapter 9 §4 in the introduction of Heath (1956, 1:124–129).

³⁴³I choose this example because Sextus argues that this is impossible at *M* III 109-111.

supposition, the skeptic must suggest that it is impossible for there to be a finite straight line; finite straight lines cannot exist (recall that Sextus explicitly argues that the definition of a straight line is incoherent at *M* III 94-99).

Given all of this, I take it that the arguments against “positing something from hypothesis” at the beginning of *Against the Geometers* cannot be directed at the first principles of geometry (or against first principles, in general). Rather, the arguments are against a particular method of investigation used by the geometers to demonstrate their claims.

Now, let us turn to the arguments that Sextus makes. In what follows, I will claim that he uses a dialectical argument, which is meant to undermine the credibility of the hypothetical method. Sextus' arguments begin with a restatement of the mode of hypothesis:

Wherefore one ought to say straight away also that since those who accept something from hypothesis and without proof are satisfied by bare assertion [*psilēi phasei*]³⁴⁴ alone in relation to its trustworthiness, some one will ask them using a consideration of this sort. [8] Either the accepting of something from hypothesis is strong and firm with regard to its trustworthiness or it is untrustworthy and weak. But if it is strong, then when the opposite [claim] is accepted by hypothesis, it will be credible and firm, so that we will posit conflicting things. But if the opposite hypothesis is untrustworthy on the basis of its being accepted from hypothesis without proof, then [the original claim] is also untrustworthy on that basis, so that we will posit neither of them. So now [*toinun*], it is not the case that one ought to accept anything from hypothesis. (*M* III 7-8, cf.

344Another clue that Sextus does not have Aristotelian hypotheses in mind here is that he clearly thinks that the geometers accept their hypotheses as “bare assertions” (*psilēi phasei*): As I've already argued, Aristotelian first principles are not bare assertions, even if they are indemonstrable. They are claims which are understood through other means; in the case of Aristotle, they are known through *eisagōgē*. As I indicated, later philosophers had other theories about how we come to know the immediate foundations. But none of these theorists would claim to be “satisfied by bare assertions.” In contrast, the initial posits of the geometers *are* bare assertions. When they posit the existence of a finite straight line, they offer no reason to suppose that such a thing is possible (except perhaps the evident plausibility of the definitions which are never mentioned in the proofs). See Barnes' (1990) discussion of “bare assertions” at 97-98.

This passage mirrors the description of the hypothetical mode in the *Outlines* (PH I 173), and it seems quite plausible that Sextus means to use the mode as the starting point of his dialectical argument against hypotheses. It begins with Sextus claiming that the skeptic can simply posit an opposing claim when the geometers hypothesize something. If the pragmatic interpretation of the modes is correct, then the hypothetical mode describes a dialectical move that the skeptic makes in order to raise the question regarding the credibility of the geometers' suppositions. What is interesting about its use in the passage above is that the constructive dilemma is built around the dialectical moves of the skeptic. What exactly is the conclusion of the argument supposed to be? Barnes suggests that the conclusion is that “one ought not accept anything from hypothesis.”³⁴⁶ But this does not follow immediately from what Sextus says about the mode. What he claims is that the skeptics will take action depending on what the dogmatic geometers say. If they think their hypotheses are trustworthy, then the opposite should also be trustworthy, “so that [*hōste*] we will posit conflicting things.” The “*hōste*” clause indicates a result, not an inference. And if the opposite is untrustworthy, then so will the original claim be, “so that [*hōste*] we will posit neither of them.” For each horn of the dilemma, Sextus tells us how the skeptics will respond. Barnes is right that the passage ends by suggesting that one ought not suppose anything from hypothesis, but the particle [*toinun*] – although it has an

345διόπερ εὐθύς ρητέον ὅτι καὶ ἐπεὶ οἱ ἐξ ὑποθέσεως λαμβάνοντές τι καὶ χωρὶς ἀποδείξεως ψιλῇ μόνον ἀρκούνται φάσει πρὸς τὴν ταύτης πίστιν, πεύσεται τις αὐτῶν τοιούτῳ τινὶ χρώμενος ἐπιλογισμῷ. [8] ἤτοι ἰσχυρόν ἐστι καὶ βέβαιον πρὸς πίστιν τὸ ἐξ ὑποθέσεως τι λαβεῖν ἢ ἀπιστόν τε καὶ ἀσθενές. ἀλλ' εἰ μὲν ἰσχυρόν, καὶ τὸ ἀντικείμενον ἐξ ὑποθέσεως ληφθὲν πιστόν γενήσεται καὶ βέβαιον, ὥστε θήσομεν τὰ μαχόμενα. εἰ δὲ ἐπὶ τοῦ τὸ ἐναντίον ἐξ ὑποθέσεως λαμβάνοντος χωρὶς ἀποδείξεως ἀπιστόν ἐστιν ἢ ὑπόθεσις, ἀπιστος γενήσεται καὶ ἐπ' ἐκείνου, ὥστε οὐδέτερον αὐτῶν θήσομεν. οὐ τοίνυν ληπτέον ἐστὶν ἐξ ὑποθέσεως τι. (M III 7-8)

346Barnes (1990, 100).

inferential force – does not indicate that Sextus has conclusively demonstrated anything. Rather, the dilemma is meant to pressure the dogmatist to show why some hypotheses are credible and others are not, given that both P and not-P appear to be on equal footing insofar as they lack any support.

According to Barnes' interpretation, the remaining arguments in this section (with the exception of the next argument) all rely on the general principle that, if one can posit something without support, then one can posit anything, and that this is enough to undermine the geometer's *archai*.³⁴⁷ As I've just suggested, there is some truth to the idea that the skeptics posited an opposing hypothesis in order to raise the question about the need to justify the initial hypothesis. What I think Barnes has missed is the way Sextus presents the arguments as dialectical. This becomes clearer later in the passage in which Sextus suggests that his opponents will respond, for example, by raising objections to his arguments (e.g. *M* III 14).

Given the way that Sextus frames the discussion, and given that he includes remarks about how his opponent will respond, the arguments of this section are meant to operate in the context of a debate between the skeptic and the dogmatic geometer regarding the question of where hypotheses derive their credibility. In order to explain this, first, I will outline the section. Then, I will go into each argument in detail. Here is how this section of *M* III is organized:

- I. The hypothetical mode (*M* III 7-8): Asks where hypotheses gain their credibility.
- II. Credibility of an hypothesis cannot come from:

³⁴⁷Barnes (1990, 102).

1. Its relation to the truth (*M* III 9-10).
2. Its place in the proof or its role in investigation (*M* III 11-12).
3. Its being (merely) posited (*M* III 13).

III. Final Dialectical Exchange:

1. Dogmatic Objection: Credibility comes from the conclusion reached (*M* III 14).
2. Skeptical Response: Credibility cannot come from conclusion (*M* III 14-17).

Once Sextus introduces the initial question using the hypothetical mode, he considers a number of responses by the geometers, and he argues that each possible source of credibility for the hypothesis is insufficient. The debate ends with a final dogmatic objection and skeptical rejoinder.

The first argument after the reiteration of the hypothetical mode responds to the claim that we should trust the geometric hypotheses because of their relation to the truth. If the hypotheses are true, then they are credible; if they are false, then they are not. Against this, Sextus argues that if we know the claim to be true, then we ought not hypothesize it insofar as *supposing* something to be true is only appropriate when its truth is *unknown*. Here is how Sextus puts it:

Also, the matter hypothesized is either true and the sort of thing we hypothesize it to be or else it is false. But if it is true, we should not posit it as a hypothesis, that is, fleeing for protection to a matter full of suspicion. Rather, we should accept it for itself since no one hypothesizes what is real and true, just as it is not the case that [we hypothesize] “it is now day” or “I am discussing, and I am breathing.” For the obviousness of these matters holds firm from itself as a claim and is not in doubt as a hypothesis. So that, if the matter is true, we should not posit it as if it is not true. [10] But if it is not like this, but has been established as false, no help will emerge from the hypothesis. For even if we hypothesize it

innumerable times, the conclusion will not follow from rotten foundations, as they say, since the investigation started from non-existent sources. (*M* III 9-10, cf. *PH* I 173, *M* VIII 371)³⁴⁸

Sextus is claiming that credibility [*pistis*] is not an absolute objective measure – like truth – but a relation. What is required for credibility is not that a given hypothesis be true, but that it be true and be known to be true. But, if it is known to be true, then there is no reason to suppose it as a hypothesis. Barnes says that he cannot make sense of this argument because he thinks it amounts to begging the question.³⁴⁹ If the issue is whether hypotheses can be trusted, the claim that hypothesizing is “a matter full of suspicion” appears to beg the question.³⁵⁰ Moreover, Barnes adds, Sextus seems to distinguish between “hypothesizing” and “accepting it for itself” as if these both did not simply amount to supposing something to be true.³⁵¹

348καὶ μὴν τὸ ὑποτιθέμενον πρᾶγμα ἤτοι ἀληθές ἐστι καὶ τοιοῦτον ὅποιον αὐτὸ ὑποτιθέμεθα ἢ ψεῦδος. ἀλλ' εἰ μὲν ἀληθές ἐστι, μὴδὲ αἰτώμεθα αὐτό, εἰς πρᾶγμα ὑποψίας πλήρες καταφεύγοντες, τὴν ὑπόθεσιν, ἀλλ' αὐτόθεν λαμβάνωμεν, ἐπεὶ περ οὐθεὶς τ' ἀληθῆ καὶ ὄντα ὑποτίθεται, καθάπερ οὐδὲ τὸ νῦν ἡμέραν εἶναι ἢ ἐμὲ διαλέγεσθαι καὶ ἀναπνεῖν· ἡ γὰρ περιφάνεια τούτων τῶν πραγμάτων αὐτόθεν βέβαιον ἔχει τὴν θέσιν καὶ οὐ δισταζομένην τὴν ὑπόθεσιν. ὥστε εἰ ἀληθές ἐστι τὸ πρᾶγμα, μὴδὲ αἰτώμεθα αὐτό ὡς μὴ ὄν ἀληθές. [10] εἰ δ' οὐκ ἐστι τοιοῦτο ἀλλὰ ψεῦδος καθέστηκεν, οὐδὲν ὄφελος ἀνακίψει ἐκ τῆς ὑποθέσεως· κἂν γὰρ μυριάκις αὐτὸ ὑποτιθώμεθα, σαθοῖς, ὥς φασι, θεμελίοις οὐκ ἀκολουθήσει τὸ συμπέρασμα τῆς ζητήσεως ἐξ ἀνυπάρκτων ὁρμωμένης ἀρχῶν. (*M* III 9-10)

349Barnes (1990, 100–101). Dye and Vitrac (2009) agree that this argument is difficult to understand (197). They suggest that Sextus may be toying with the ambiguity of the term hypothesis, but they also develop a more promising interpretation: The claims that Sextus suggests are conspicuous and known from themselves are those which are part of the appearances – like “it is day” or “I am discussing and I am breathing.” These are not claims that require demonstration. But everything else – those things which are not part of the appearances – are among the “unclear things” (*adēla*) which must be demonstrated. Thus, Dye and Vitrac claim that Sextus' argument here assumes that the principles of geometry are open to dispute which is precisely what Sextus shows in remainder of the book (197-199).

350Of course, it is not begging the question to argue that one ought not hypothesize because suppositions are not to be trusted. But insofar as it is a substantive issue whether they should be trusted, one cannot use their suspicious nature as support. Note that if these arguments are meant to be directed against hypothesizing as a method of inquiry rather than against Aristotelian *archai*, as I've already argued, it helps make sense of why Sextus would consider it reasonable to assert that a hypothesis is full of suspicion. This does not explain why the argument does not beg the question, but it is yet one more reason to think that Sextus is not considering hypotheses as indemonstrable first principles.

351Barnes (1990, 101) claims that “hypothesizing” and “accepting” both amount to supposing something to be true. But surely we can distinguish between assuming something to be true for the purposes of discussion and actually thinking it to be true. For one, the latter will require assent and may also involve

But if my outline of the dialectic above is correct, the guiding question of this section is whence does the credibility of a hypothesis come? And if the geometer responds that the hypotheses are true and known to be true, then a tension arises because the hypothetical method was a method of inquiry that moves from something unknown to something known. The geometer cannot claim that the hypotheses are known to be true and still use them as hypotheses. If they are known to be true, then one need not “grant” or “suppose” them. They can simply be asserted.

To put the issue in another way: The reason Sextus gives for rejecting the horn that claims the hypothesis is true seems to assume that we must also know it to be true. The whole point to using a hypothesis is that we do not know whether the posit is true or false. A demonstration which proceeds from known premises differs from the sort of investigation Sextus is attacking. And while we might accept that the dilemma exhausts the possibilities (the claim is either true or false), Sextus plays on our epistemological limits by emphasizing the fact that if the claim is treated as a hypothesis – that is, insofar as the claim is not believed, but simply assumed for the current discussion – then we cannot think that it gains its credibility from its truth value.³⁵²

Notice that no explicit conclusion is offered to this argument. Barnes and others

knowledge whereas the former does not involve either of these. Part of Barnes' problem with this argument is that he has already concluded that Sextus has Aristotelian *archai* in mind when he makes it. Of course, Aristotle's first principles are supposed to be accepted as true. But no one thinks they are suppositions.

³⁵²It is interesting to note that neither Barnes, nor Dye and Vitrac say much about the negative side of this argument. Sextus claims that if the hypothesis is false, then the conclusion will come from rotten foundations. But, as I've already indicated, the initial suppositions of *reductio* proofs were called hypotheses and were supposed to be false (Alexander of Aphrodisias *On Aristotle's Prior An.* 131.8-132.4). Given that *reductio* proofs are one of the most common and powerful reasoning tools, it is difficult to see what we should make of Sextus' claim. Perhaps, he is assuming that a hypothesis is always used as positive evidence for a conclusion, so that a known false claim will never support a true conclusion.

suppose that the conclusion is that one ought not hypothesize about anything, but Sextus never indicates that this is his conclusion. I think that the skeptic uses this argument to persuade the interlocutor that when one assumes something, its truth value is unknown. And if this is the case, then whatever credibility exists in the hypothetical method, it cannot come from the relation of the hypothesis to the truth. This will be significant later in the dialectic.

We ought to conclude that the argument is misleading. As stated, the valid conclusion would be – as Barnes and others suppose – that one ought not hypothesize. But the initial dilemma is better understood as a trilemma, namely that a claim can be true and known to be true, or it can be false and known to be false, or its truth value could be unknown. Sextus' argument explicitly leaves out the latter possibility. We can see that he assumes the first horn when he says that if a claim is true, it should not be assumed but asserted. It could only be asserted by the dogmatist if he indeed knew it to be true (or, at least, had good reason for thinking it to be true). But, if the initial premise included the option that the truth value could be unknown, then the correct conclusion should be that the only suitable time to use a hypothesis is when its truth value is unknown. And if the truth value of the hypothesis is unknown, then its relation to the truth cannot give it credibility *for us* since we do not have access to that relation.

Sextus imagines a potential response from his interlocutor in his next argument. Someone might argue that the credibility lies, not in the hypothesis, but elsewhere in the demonstration:

Nevertheless, if someone claims it is the things following [*ta akolouthounta*] from

that which is hypothesized which happen to be credible, perhaps he destroys all investigation. For at once, each of us will hypothesize that three is four and, if this is granted, he will conclude that six is eight. For if three is four, then six will become eight. But surely, three is four, as the hypothesis grants. So, six is eight. [12] And again, we will suppose that what is moving is at rest and if the matter is conceded, we will conclude that the flame is still. For if a moving thing is at rest, then the flame is still. But the thing that is moved rests, so the flame is still. But in the same way that the geometers will say that these hypotheses are ridiculous (For the foundation must be firm in order for what follows to be agreed upon), we also will not admit without demonstration any of the things accepted by them hypothetically. (*M* III 11-12, cf. *M* VIII 372-373)³⁵³

Here the geometer's claim seems to be that the skeptic is confused about the question of credibility. The imagined interlocutor suggests that the hypotheses themselves do not carry the credibility, but it is found in the conclusion and what is derived from the hypotheses. I suspect that Sextus' argument might also be used against someone who thinks that credibility attaches, not to the hypothesis itself, but to the role the hypothesis plays in the demonstration. The geometers were no doubt well aware that their method involved making assumptions, but thought that they could make good on those assumptions.

The conclusion of this argument claims that if credibility is located in what is implied rather than the hypotheses, then “all investigation is destroyed.” When I discussed this argument above as part of my interpretation of the Agrippan modes, I pointed out that Barnes says Sextus is making the implicit assumption that if one allows

³⁵³οὐ μὴν ἀλλ' εἴ τις οἷς ἂν ὑποθῇται, τούτοις τὰ ἀκολουθοῦντα πιστὰ τυγχάνειν ἀξιῶσει, μήποτε πᾶσαν ἀναιρεῖ ζήτησιν. εὐθέως γὰρ ὑποθήσεται ἕκαστος ἡμῶν τὸ τὰ τρία τέσσαρα εἶναι, καὶ τούτου δοθέντος συνάξει ὅτι καὶ τὰ ἕξ ὀκτώ ἐστιν· εἰ γὰρ τὰ τρία τέσσαρά ἐστι, τὰ ἕξ ὀκτὼ γενήσεται· ἀλλὰ μὴν τὰ τρία τέσσαρά ἐστιν, ὥς ἡ ὑπόθεσις δίδωσιν· τὰ ἄρα ἕξ ὀκτὼ ἐστιν. [12] πάλιν τε αἰτήσομεν ὅτι μένει τὸ κινούμενον, καὶ συγχωρηθέντος τοῦ πράγματος συνάξομεν ὅτι ἡ φλόξ ἡρεμεῖ· εἰ γὰρ τὸ κινούμενον μένει, ἡ φλόξ ἡρεμεῖ· τὸ δέ γε κινούμενον μένει, ἡ ἄρα φλόξ ἡρεμεῖ. ἀλλ' ὅν τρόπον οἱ γεωμέτραι ἀτόπους ἐροῦσιν εἶναι ταύτας τὰς ὑποθέσεις (βέβαιον γὰρ εἶναι δεῖ τὸν θεμέλιον, ἵνα συνομολογηθῇ καὶ τὸ ἀκόλουθον), οὕτω καὶ ἡμεῖς πάντα τὰ ὑποθετικῶς αὐτοῖς λαμβανόμενα οὐ προσησόμεθα χωρὶς ἀποδείξεως. (*M* III 11-12)

hypotheses, then one must accept any – even an inconsistent – hypothesis.³⁵⁴ Perhaps Sextus does assume this, but he does not need it for this argument. The dogmatic interlocutor asserts that the hypothesis need not be credible; so the skeptic accepts, for the purposes of the argument, that one can start from an incredible, specifically, a patently false, assumption. How is inquiry destroyed? Sextus' arguments take advantage of logical “explosion”; a contradiction proves anything you like. If anything can be proved, then we cannot inquire because the concept of inquiry presupposes at least the possibility of differentiating correct and incorrect answers. What Sextus wants to show his interlocutor is that both credibility and a lack of credibility *may* be transmitted from the hypotheses to their implications. It is the *transitivity* of credibility (or lack thereof) that is at stake in this argument.

It is true, of course, that one might start with an inconsistent set of premises and reach a true conclusion. But, the question is whether such a conclusion is credible. Sextus' argument aims to show that it is not, because incoherent premises may also lead to a false conclusion. There is no way, on the basis of the argument in question, of knowing whether the conclusion is true or false. So the credibility of the conclusion depends on the credibility of the premises.

Again, the geometers respond that one cannot simply accept any hypotheses for the very plausible reason that “the foundation must be firm in order for what follows to be agreed upon.” But this is exactly the point that Sextus is pushing. The credibility of the conclusions depends upon the firmness of the foundations. So, this argument handles the

³⁵⁴Barnes (1990, 102).

situation where the interlocutor tries to move away from the question of the credibility of the hypotheses to locate the credibility elsewhere.

If credibility must be found in the hypotheses, and it cannot come from the relation of the hypothesis to the truth (since this cannot be known insofar as it is a hypothesis), then it looks like the credibility of the hypothesis must simply come from its status as a supposition. Sextus attacks this claim next:

In addition, if the thing hypothesized is firm and credible insofar as it is hypothesized, let not the things from which they demonstrate something be hypothesized, but rather let the very thing demonstrated be hypothesized, that is, not the premises of the demonstration, but the conclusion. For, that which hypothesis can do for them with respect to their trust in the case of the things which reveal, it will also be able to do that on the matters that are revealed from the demonstration. But if the conclusion of the demonstration is not credible without demonstration, even if it is hypothesized many times, that which is assumed to establish it will also not be credible unless it be taught through demonstration. (*M* III 13, cf. *PH* I 174; *M* VIII 374)³⁵⁵

In one horn of this new dilemma, Sextus points out that if hypothesizing gives something credibility, then we have an easy way to spread credibility around. We don't need proofs or demonstrations at all; simply posit what you wish and *poof!* credibility is there. Of course, his opponent will claim that the credibility of the conclusion only comes from the demonstration; Sextus replies that by parity of logic, the hypothesis will lack credibility without a demonstration.

Barnes thinks that Sextus is saying that if one can assume the hypotheses, then

³⁵⁵ἄλλως τε, εἰ βέβαιόν ἐστι καὶ πιστὸν τὸ ὑποτιθέμενον ἢ ὑποτίθεται, μὴ ταῦτα ὑποτιθέσθωσαν ἐξ ὧν ἀποδείξουσὶ τι, ἀλλ' αὐτὸ τὸ ἀποδεικνύμενον, τουτέστι μὴ τὰ λήμματα τῆς ἀποδείξεως ἀλλὰ τὴν ἐπιφορὰν· ὁ γὰρ δύναται πρὸς πίστιν αὐτοῖς ἐπὶ τῶν ἐκκαλυπτόντων ἢ ὑπόθεσις, τοῦτο δυνήσεται καὶ ἐπὶ τῶν ἐκκαλυπτομένων ἐκ τῆς ἀποδείξεως πραγμάτων. εἰ δ' ἄπιστόν ἐστι, κἂν πολλάκις ὑποτεθῇ, τὸ τῆς ἀποδείξεως συμπέρασμα χωρὶς ἀποδείξεως, ἄπιστον γενήσεται καὶ τὸ εἰς κατασκευὴν τούτου λαμβανόμενον, εἰ μὴ δι' ἀποδείξεως διδάσκειτο. (*M* III 13)

one can also assume anything that follows from them.³⁵⁶ Again, I think he misrepresents what is at issue. The initial claim that Sextus makes is that simply hypothesizing something gives it credibility. But this assumption is only plausible once Sextus has gone through the other arguments above. Barnes, citing the version of the argument at *M VIII* 374 (which claims that the initial assumptions are matters of dispute), thinks that Sextus does not explain why the premises lack credibility.³⁵⁷ As such, Barnes suggests that Sextus must be implicitly invoking the mode of disagreement. But, it is clear from the context of the debate that the hypothesis must not be known to be true or false (*M III* 9-10). As a hypothesis, its truth value is unknown. So, these arguments are not relying on the mode of disagreement. Rather, Sextus is simply relying on the arguments which immediately precede this one in *Against the Geometers*.³⁵⁸ In addition, Barnes thinks that the two previous arguments have a fatal flaw; he says,

In both the fourth [*M III* 13] and the third [*M III* 11-12] arguments, then, Sextus makes a supposition of the form 'If it is legitimate to hypothesize P, then it is legitimate to hypothesize X'. The Dogmatist will reject both suppositions; and – which is the important point here – he may do so on purely formal or logical grounds. For he may say, against the fourth argument, that if P₂ can be proved from P₁, then P₂ may not be hypothesized. And he may say, against the third argument, that if a proposition is self-contradictory (if it entails something of the form 'P and not-P'), then it may not be hypothesized.³⁵⁹

356Barnes (1990, 101).

357Barnes (1990, 103).

358Barnes (1990) ends up concluding that the mode of hypothesis must depend for its efficacy on the mode of disagreement. The reason he gives is that what is hypothesized must be under dispute for the mode of hypothesis to work. "If everything is under dispute, then everything hypothesized will be under dispute" (103). While I agree that the modes of disagreement and hypothesis are analogous, as I explained above, I do not think that the mode of hypothesis depends upon the mode of disagreement except in the sense that the use of the mode of hypothesis is meant to follow the mode of disagreement. On my view, once the skeptic gets to the point of offering the arguments under discussion here, the debate has moved on from the mode of hypothesis to a methodological debate about the efficacy of hypotheses to render anything credible.

359Barnes (1990, 104).

Barnes says that the dogmatist can simply distinguish between the assumed premise and the conclusion on the basis of their respective provability, and he thinks this because he believes that the hypotheses in question are Aristotelian *archai*, that is, claims which cannot be demonstrated. Insofar as P_2 is provable, it may not be assumed. But the skeptic will wonder why we should suppose that P_1 is indemonstrable; in fact, this is precisely the response that we see at *M* III 13. Sextus claims that if P_2 needs a demonstration to achieve credibility, then we should suppose that P_1 should have a proof as well. Barnes suggests that the dogmatist will be satisfied with his claim that P_1 cannot be demonstrated. But surely this is another disputable claim and the skeptic may then ask the dogmatist to prove that P_1 cannot be demonstrated and the dialectic continues.³⁶⁰

Having considered three possible sources of credibility in the hypothetical method, Sextus offers a final potential dogmatic interjection:

But, by Zeus, if they say that which follows from the hypotheses is discovered to be true, so too the things hypothesized will be true (for they are those things which it follows), which again is silly. For how is it that the thing that follows from something in a demonstration is in every way true? For either, when they learn it, they discover this thing from itself, or else they discover it from the premises which it follows. [15] But they would not say it is discovered from itself. For it is unclear, and the unclear is not credible in itself. So they are thrown to demonstrate this as if it is not trustworthy in itself. And it is not [discovered] from the premises, for the whole fight is about these and since they have not yet been made credible, that which is demonstrated from them cannot be firm. [16] Moreover, it is not the case that should the consequent be true, immediately the antecedent is also the same. For just as it is natural for true to follow true and false to follow false, so too it is claimed that the true is implied by the false, just as, in the case of “the earth flies” (which is false), the truth “the earth exists” is asserted. [17] From which, it is clear that the antecedent is not always true if the consequent is true. But it is possible that if the consequent is true, the antecedent is false. (*M*

³⁶⁰Barnes' claim that a similar response will be made against the so-called third argument ignores what that argument was trying to show. If the dogmatist claims that one cannot assume contradictory premises, then the dogmatist and the skeptic are essentially agreeing. The skeptical argument at *M* III 11-12 is meant to show that the credibility of the conclusion comes from that which implies it.

The beginning of this passage makes it quite clear that Sextus imagines a debate with dogmatic geometers. He claims that they might respond to the preceding discussion by saying that the transfer of credibility goes in the reverse direction; that is, the truth of the conclusion shows the hypothesis to be true. This suggests that Sextus thinks the discussion about hypotheses applies to the geometric methods of analysis and synthesis.

The character of ancient geometric methods is controversial. Sources which explain how their methods were supposed to work are at best unclear and the proofs themselves often seem much more complex than the methodological descriptions allow. Still, we gain a rough picture from Pappas of Alexandria who wrote in the generation or two after Sextus. He describes the method in this way:

Now *analysis* is a method of taking that which is sought as though it were admitted and passing from it through its consequences [*akolouthōn*]³⁶² in order to something which is admitted as a result of synthesis; for in analysis we suppose [*hupothemenoi*] that which is sought to be already done, and we inquire what it is from which this comes about, and again what is the antecedent cause of the latter, and so on until, by retracing our steps, we light upon something already known or ranking as a first principle [*archē*]; and such a method we call analysis as being a reverse solution. But in *synthesis*, proceeding in the opposite way, we suppose to be already done that which was last reached in the analysis, and arranging in their

361 νή Δί', ἀλλ' εἴπερ, φασί, τὸ ἀκολουθοῦν ταῖς ὑποθέσεσιν ἀληθὲς εὐρίσκεται, πάντως καὶ τὰ ὑποτεθέντα, τουτέστιν οἷς ἐπηκολούθησεν, ἀληθῆ γενήσεται. ὁ πάλιν ἐστὶν εὐηθες· πόθεν γὰρ ὅτι τὸ ἀκολουθοῦν τισιν ἐν ἀποδείξει πάντως ἀληθὲς ἐστίν; ἢ γὰρ ἐξ αὐτοῦ μαθόντες ἐκείνου τοῦτ' ἐροῦσιν, ἢ ἐκ τῶν οἷς ἠκολούθησε λημμάτων. [15] ἀλλ' ἐξ αὐτοῦ μὲν οὐκ ἂν εἴποιεν. ἄδηλον γὰρ ἐστὶ, τὸ δὲ ἄδηλον ἐξ αὐτοῦ πιστὸν οὐκ ἔστιν· ἀποδεικνύναι γοῦν τοῦτο ἐπιβάλλονται ὡς μὴ ἐν αὐτῷ τὴν πίστιν ἔχον. καὶ μὴν οὐδ' ἐκ τῶν λημμάτων· περὶ γὰρ τούτων ἐστὶν ἡ πᾶσα διαμάχη, καὶ μηδέπω αὐτῶν πεπιστευμένων οὐδὲ τὸ ἀποδεικνύμενον ἐξ αὐτῶν βέβαιον εἶναι δύναται. [16] ἔτι οὐδ' ἂν τὸ λήγον ἢ ἀληθές, εὐθὺς καὶ τὸ ἡγούμενόν ἐστι τοιοῦτον. ὥσπερ γὰρ τῷ ἀληθεῖ πέφυκεν ἀληθὲς ἐπακολουθεῖν καὶ ψεύδει ψεῦδος, οὕτως ἡξίωται καὶ ψεύδει ἀληθὲς συνεισάγεσθαι, καθάπερ [ἐν] τῷ πέτασθαι τὴν γῆν, ψεύδει ὄντι, τὸ εἶναι τὴν γῆν ἀληθὲς ὑπάρχον εἴπετο. [17] ὅθεν οὐκ εἰ τὸ λήγον ἐστὶν ἀληθές, πάντως καὶ τὸ ἡγούμενον ἀληθές, ἀλλ' ἐνδέχεται τοῦ λήγοντος ἀληθοῦς ὄντος τὸ ἡγούμενον ὑπάρχειν ψεῦδος. (*M* III 14-17a)

362 Hintikka and Remes (1974) argue that Pappas cannot mean a logical consequence when he uses the word *akolouthōn* here (10-16). Rather, they argue, the word *akolouthon* can also have the sense of something that “goes along with”. As such, they translate the term “concomitants” in this passage (8).

natural order as consequents what were formerly antecedents and linking them one with another, we finally arrive at the construction of what was sought; and this we call synthesis. (*Collection* VII 634.11-23 trans. Ivor Thomas).

One thing that is clear about the methods of analysis and synthesis is that the starting point of one is the ending point of the other. Much of the controversy over these methods revolves around whether the inferences go in both directions.³⁶³ In the case of analysis, Pappas says that the starting point is what is under dispute and that the analysis ends when a first principle (*archē*) is reached. In the synthesis, this starting place is then used to establish the thing under investigation. This method bears a resemblance to the Platonic method in the *Republic* and the *Phaedo*, which I described in the previous section.³⁶⁴ The initial supposition is taken as true for the purposes of the proof, but it is really the claim that needs to be established. The analysis tries to find something that has already been established; it works backwards to find something that is agreed upon. Once this common point is found, then the synthesis can show that the initial assumption holds.

Returning to Sextus, then, the response that his imaginary interlocutors raise fits with the methodology just described. They want to claim that the credibility of the initial supposition is established by the conclusion of the analysis. It is the truth of this *archē* which lends the hypothesis its credibility, and this is demonstrated in the synthesis.

³⁶³Robinson (1969) defends the view that both analysis and synthesis involve inferences. That is, if A is the initial assumption and B is the conclusion of the analysis, then, in a successful analysis, A implies B; but similarly B must imply A in order for the synthesis to go through. Berggren and Van Brummelen (2000) also defend this view, but they argue that in actual practice geometric analysis was much more complex than a simple chain of inferences (see esp. their discussion from p. 5-12). Netz (2004) argues on the basis of Archimedes' first proof in Book 2 of *de Sphaera et Cylindro* that analysis is "not so much a format for finding solutions, but a format for presenting them" (191). Berggren and Van Brummelen seem to disagree with Netz on this point (16). Cornford (1932), on the other hand, argues that analysis proceeds backwards "up" the inferential chain. Similarly, Hintikka and Remes (1974) argue that analysis proceeds up the inferential chain, but they argue that this should not lead us to conclude that analysis lacked heuristic value or was any less "rule based" than synthesis.

³⁶⁴The resemblance is particularly stark under Cornford's or Hintikka's and Remes' interpretation.

Sextus responds to this defense by asking whence the credibility for the *archē* comes. He considers two possibilities, and again, it looks like he is leaving something out. The two cases he discusses are a) learning the *archē* from itself (*autothen*) or b) learning it from the premises in the demonstration. It seems that Sextus leaves out the possibility that the conclusion is learned from some other, independent demonstration.³⁶⁵ But, in that case, Sextus can simply reformulate the entire discussion in terms of this other demonstration. So, he is not wrong to focus on these two options.

The geometers cannot say, in response, that they have learned the conclusion from the premises if the conclusion is supposed to validate the credibility of the initial assumption(s). As Sextus rightly points out, that would simply beg the question. But, it is less clear why the conclusion cannot be known from itself. Sextus indicates that, as a conclusion, it must be unclear and therefore not self-evident. The geometers might object that the whole point of doing the analysis is to arrive at something that is obviously true which provides a way to do the synthesis. If the geometers take this route, Sextus will first concede for the sake of argument that the conclusion is known to be true, and then argue that this does not guarantee the truth of the premises. Leaving aside the scholarly dispute over whether the reasoning in geometric analysis and synthesis involved convertible claims, that is, that the implications went in both directions, Sextus indicates that *he* does *not* think that the geometers' claims are mutually entailing (whether he is correct about this is not something I will consider). According to Sextus, the initial supposition implies, but is not necessarily implied by the conclusion of the analysis. If

³⁶⁵Robinson (1969) claims that this was an essential part of the analysis: the *archē* must have been previously proven or it may be an axiom or an “element of the construction” (2).

this is the case, then Sextus is quite right that we ought not to infer anything about the truth of the hypothesis on the basis of what it implies. Of course, it is possible that Sextus misrepresents or even misunderstands the geometric method. It may be the case that analysis and synthesis did involve jointly entailing steps. If this is the case, then the dogmatist has one further step that Sextus does not consider; the geometer might claim that, since each step in the inferential chain both entails and is entailed by each next step, then the truth of the hypothesis can be known by the truth of the conclusion.

Still, even if the geometer tries to escape in this way, Sextus has a reply: He can use the reciprocal mode which – as I've argued above – grants that the two claims mutually entail each other, and then asks of them both why we should trust that they apply to reality. And in fact, we see that Sextus makes this move in *Against the Logicians*. Immediately after the discussion of hypotheses, he writes:

So, let this much be said which is a side-track on the road – as they say – and added beside concerning the fact that one must not begin the demonstration from hypothesis. But one should show consequently [*akolouthōs*] that he has also fallen into the reciprocal mode, which is more difficult. For, we already established that demonstration is of unclear things, but every unclear thing is in need of adjudication and that which needs adjudication requires a criterion that will establish whether it is sound or not. For, just as that which needs to be measured is not measured without a standard of measure, and everything that is measured by a ruler is not measured without a ruler, so also that which is judged is not tested without a criterion. So, since even the question of the criterion continues to be investigated, some saying it does not exist, and others saying it does exist, and still others watching over this in suspension, again, the claim that there is a criterion will need to be demonstrated through some demonstration. But in order that we should hold the demonstration to be credible [*pistē*], it will need to turn upon the criterion, and thus, while the latter does not have credibility [*pistē*] before the former, nor is the former secure before the latter, we agree to suspend judgment about both of them. (*M VIII 378-380*)³⁶⁶

³⁶⁶ Ὅδοῦ μὲν οὖν πάρεργον, ὥς φασι, καὶ παρενθήκη τοσαῦτα εἰρήσθω περὶ τοῦ μὴ δεῖν ἐξ ὑποθέσεως κατάρχεσθαι τὴν ἀπόδειξιν· ἀκολουθῶν δ' ὑποδεικτέον, ὅτι καὶ εἰς τὸν δι' ἀλλήλων τρόπον ἐμπίπτωκεν, ὃ ἐστὶν ἀπορώτερον. ὅτι μὲν γὰρ τῶν ἀδήλων ἐστὶν ἡ ἀπόδειξις

Here Sextus considers the case where the credibility of a demonstration [*apodeixis*] needs a criterion to validate it and vice versa. In the context of *Against the Logicians*, Sextus is primarily concerned here with the soundness of demonstration, but it is important that he invokes the reciprocal mode immediately after the argument we were just considering. In fact, he implies that the discussion of the reciprocal mode follows [*akolouthōs*] from the discussion of hypothesis. Given that the geometers may very well have responded that each step in their proofs use both necessary and sufficient conditions to prove each next claim, they might, as a result, have thought themselves immune to Sextus' last objection. Still, if they defend themselves in this way, the skeptic should respond by granting that – as a conceptual move – one can understand the relationship invoked, but still wonder why we should therefore conclude that mutually entailing claims apply to the world.

This leads us to the question of how (and whether) any scientific method can gain access to reality – a question that we, as modern thinkers, should be asking – which I will consider in the next section. But, before we consider that, let me sum up what I've shown here. We've seen that, contrary to what other scholars have argued, the first part of the *Against the Geometers* is not an attack on Aristotelian first principles. Rather, it appears to be an attack on the geometric method of analysis which starts from an assumption and works to some *archē*. The central question of this section is whence comes the credibility

προκατεστησάμεθα, πᾶν δὲ ἄδηλον ἐπικρίσεως δεῖται, τὸ δὲ ἐπικρίσεως δεόμενον κριτηρίου χρήζει τοῦ παραστήσοντος, εἴτε ὑγιές ἐστίν εἴτε μὴ τοιοῦτον· ὥσπερ γὰρ τὸ μετρηθῆναι ὀφείλον οὐ χωρὶς μέτρου μετρεῖσθαι πέφυκε καὶ πᾶν τὸ κανονιζόμενον οὐ χωρὶς κανόνος κανονίζεται, οὕτω καὶ τὸ κρινόμενον οὐ χωρὶς κριτηρίου δοκιμάζεται. ἐπεὶ οὖν καὶ τὸ εἰ ἐστὶ κριτήριον ἐζήτηται, τῶν μὲν μηδὲν εἶναι φαμένων, τῶν δὲ εἶναι, τῶν δὲ ἐν ἐποχῇ τοῦτο φυλαξάντων, πάλιν δεήσει τὸ ὅτι ἐστὶ κριτήριον ἀποδειχθῆναι διὰ τινος ἀποδείξεως. ἀλλὰ δὴ ἵν' ἔχωμεν τὴν ἀπόδειξιν πιστὴν, ἀναστρέφειν ἐπὶ τὸ κριτήριον δεήσει, καὶ οὕτω, μήτε ταύτην πρὸ ἐκείνου ἔχοντας πιστὴν μήτε ἐκεῖνο πρὸ ταύτης βέβαιον, ὁμολογεῖν τὴν περὶ ἀμφοτέρων ἐποχὴν. *M VIII* 378-380

of the initial hypothesis. Sextus outlines a dialectical argument, considering potential objections and responses made by the dogmatic geometers. When he sums it up, he says that the geometers do not do well to start their arguments with hypotheses. He then says he will go on to show that their starting points are false and unconvincing. While recent commentators have argued that Sextus structures Book III by attacking all *archai* in general and then the geometric *archai* in particular, I claim that the structure is quite different. What Sextus argues against in *M* III 7-18 is the geometric method. He ends by claiming that geometers ought not behave in a particular way in their investigations, not that their claims are false. The latter half of the book does argue against geometric *archai*, but, again, these are not the axioms and postulates. Rather, Sextus mainly argues against the conceptual elements – points, lines and planes – which make up the axioms and postulates. They are, in fact, the very subject matter of geometry. What we should conclude is that skeptical investigation focused not just on questioning dogmatic claims, but also on questioning dogmatic methodology. In the final section of this chapter, I will briefly discuss the import of this methodological questioning.

3.5 The Skeptic's Methodological Anti-Foundationalism

In this chapter, I have argued that the skeptical modes provide a methodology that undermines dogmatic support by creating a regress of investigation. Any time a dogmatist attempts to ground scientific claims in some non-inferentially justified belief, the skeptic raises questions about the basis for that belief. Whatever the dogmatist says in support of

the claim, the modes provide the skeptic with a response that continues the discussion. As a result, the dogmatist never establishes the foundations and the investigation continues indefinitely.

This type of methodology has the effect of undermining science as it was understood by ancient philosophers of science, at least from Plato onward. If the dogmatic scientist can never be sure that he has a grasp on the foundations, the *archai*, of his science, then he lacks true understanding of the whole science. As Aristotle says, each scientific claim is either an indemonstrable first principle or it is explained by those principles which precede it. Since the skeptic continues questioning the grounds for each prior claim, the ancient dogmatic scientist never gets the science off the ground.

It is important not to misconstrue the result of this skeptical method. The skeptic's practice is not meant to lead us to conclude that the scientific claims are false. It is not even supposed to lead us to conclude that the claims are unjustified.³⁶⁷ What it does lead us to do is to suspend judgment about the justificatory status of scientific claims *pending further investigation*. Most scholars focus on Sextus' negative "destructive" project, and this focus has raised problems about how the skeptic can claim to continue investigating when the investigation leads to the decisive conclusion that we ought to suspend judgment. On my view, there is no such conclusion. The skeptic suspends judgment because the conclusion has yet to be established. But the investigation is left open because the skeptic can always dig deeper, or pursue the question from another standpoint.

³⁶⁷This latter claim is what really differentiates my understanding from most other scholars.

The skeptical method is a method of investigation. As non-skeptics, we might look at the method and dismiss its utter futility. We might accuse the skeptic, saying, “Look, don't you see that you'll never gain any knowledge if you keep asking for further support?” It looks like the skeptics suspend judgment because they are not satisfied by the foundations of knowledge. But this skeptical questioning has given many philosophers (including modern epistemologists) pause to wonder whether knowledge is indeed foundational in spite of what Aristotle says. Moreover, since the skeptical method investigates scientific methodology, it demands that we consider whether our scientific methodologies can deliver the necessary credence to our beliefs such that we can achieve what is needed to count as knowing them. I suspect that this kind of epistemological bootstrapping is exactly what is at stake in the geometry that Sextus attacks. Ancient geometry has first principles from which the rest of its theorems are derived. But the method of hypothesizing and reaching something known from what is unknown (and back again) was an important aspect of the geometric methodology for expanding knowledge.

One reason that I think the the skeptical attack on the hypothetical method is important is that it shows that the skeptics not only attacked particular philosophical doctrines, but also that they targeted dogmatic investigative methodology. Sextus does not make this as clear as he could in *Against the Geometers*, but when he introduces the arguments against hypothesis in M VIII, it is more explicit:

And then, where will they go? For while the appearances present this alone, that they appear, and do not prevail to teach that they also really are [in the way they appear], let us set out that the premises of the demonstration appear, and the

conclusion too. And thus what is being sought will not be inferred and the truth will not be produced since we settle for bare assertion and personal affection. But the desire that it not only appears, but also is real is present among men who are not satisfied with what is necessary relative to their purpose, but who also hastily seize and hold on to what is possible. (*M VIII 368*)³⁶⁸

Sextus is willing to grant that the premises match the appearances and that the conclusion seems to follow from them. What he avoids is the further claim that things are as they appear. Here he suggests that this is what drives the method of hypothesis, namely the desire to get at reality. If the geometric method were meant to achieve mere conceptual knowledge, this passage hints that Sextus would have no problem with it (Recall our earlier discussion (§2.5) about the skeptic's ability to think and reason about concepts and ideas, cf. *PH II 10*). But, given that geometers are trying to grasp the nature of space and body, the skeptic raises questions, not only about their substantive claims, but also about their method for achieving certainty of them. It is this second order methodological attack that, in my view, represents an important part of the scientific and philosophical spirit of the skeptic. That the skeptical method precludes Sextus from setting down foundational principles is unsurprising. But the skeptical method is essentially investigative, and ultimately it is the investigation into scientific methodology and its justification that undermines the hypothetical method.

One might think that modern science can avoid these skeptical “problems.” We recognize that, even in those sciences that we still formulate axiomatically (like

368Εἴτα καὶ ποῖ προβήσονται; τῶν γὰρ φαινομένων αὐτὸ μόνον παριστάντων ὅτι φαίνεται, τὸ δ' ὅτι καὶ ὑπόκειται μηκέτι προσισχυόντων διδάσκειν, τιθέσθω καὶ τὰ λήμματα τῆς ἀποδείξεως ὅτι φαίνεται, καὶ ἡ ἐπιφορὰ ὁμοίως. ὧδε δὲ οὐ συναχθήσεται τὸ ζητούμενον καὶ οὐ παραχθήσεται ἡ ἀλήθεια, μενόντων ἡμῶν ἐπὶ ψιλῆς φάσεως καὶ τοῦ οἰκείου πάθους. τὸ δ' ὅτι οὐ μόνον φαίνεται, ἀλλὰ καὶ ὑπόκειται θέλειν παριστᾶν ἀνδρῶν ἐστὶ μὴ τῷ ἀναγκαίῳ πρὸς τὴν χρεῖαν ἀρκουμένων, ἀλλὰ καὶ τὸ δυνατόν συναρπάζειν ἐσπουδακότων. *M VIII 368*

geometry), our observations of the physical world under-determine the axioms. It has long been recognized, for instance, that equivalent, consistent geometries can be generated by replacing Euclid's fifth postulate (the parallel postulate) with alternate axioms.³⁶⁹ The fact that any of these consistent geometries can be used equally well to describe our observations and experience of space means that we have no reason to think that one describes reality better than the other.³⁷⁰

We might think, in light of this observation, that we have at least gotten closer to the truth insofar as we limit ourselves to consistent geometric theories which can model our observations. In a sense, this plays right into the skeptic's hands. The skeptic has no problem with describing the way things appear; what she avoids are claims that reality matches the appearances. Before we congratulate ourselves for avoiding the skeptic's undermining methodology and before we assume that modern geometry can go merrily along as if skepticism has nothing to say, consider the other axioms that modern geometry retains. The skeptic will raise questions about the support for these. If we think that, although absolute geometry does not describe space in its totality, still it must be correct in what it does describe, then we maintain a dogmatic foundationalism about geometric knowledge. If geometry is expressed axiomatically, modern geometry will not escape.

³⁶⁹For a short account of the development of non-Euclidean geometries, see Blumenthal (1961, 1–18) and Gans (1973, 3–30).

³⁷⁰In fact, some ancient thinkers were well aware that the same phenomena could be captured using different theoretical constructs. Evans and Bergren (2006), in their introduction to Geminus, mention that Theon of Smyrna says there is more than one way to explain the phenomena (referring to the geometric approach of the Greeks vs. the arithmetic approach of the Babylonians) (58). But he goes on to criticize that arithmetic approach as not being based on a sufficient understanding of nature: “one must also examine these matters physically” (iii 30). In addition, as I note below, even Sextus seems to be aware of the issue of under-determination.

What about the natural sciences? It is well accepted that modern science does not operate axiomatically as Aristotle envisioned. I take it that modern physical sciences are generally characterized, not in terms of a set of axioms and the claims that can be derived from them, but rather in terms of a particular methodology. Popper, for example, begins his *The Logic of Scientific Discovery* by developing the notion that empirical science is or must be based on testability. If this is the basis of an empirical science, then – Popper claims – there can be no foundations:

Yet inter-subjective testability always implies that, from the statements which are to be tested, other testable statements can be deduced. Thus if the basic statements in their turn are to be inter-subjectively testable, *there can be no ultimate statements in science*: there can be no statements in science which cannot be tested, and therefore none which cannot in principle be refuted, by falsifying some of the conclusions which can be deduced from them.³⁷¹

What Popper describes as a science is not characterized by its inferential relations (although certainly Popper's science will involve inferences), but rather it is characterized by a particular methodology in which any given claim is open to question. Each claim in the science is provisional and may be discarded if it is falsified in a test scenario.³⁷²

I do not want to debate Popper's theory of falsification here, but what I want to suggest is that modern philosophers of science have claimed that modern science is not foundational. For them, modern science is characterized by a particular methodology in which any scientific claim is open to question and may or may not stand up to further scrutiny (however that scrutiny is construed). For example, Quine, in his famous “Two dogmas of empiricism”, suggests, using the metaphor of a web or a network, that all of

³⁷¹Popper (1968, 47), his emphasis.

³⁷²Popper (1968, 40–41).

our knowledge is interrelated and ultimately open to revision in light of changes that we might make elsewhere. Those claims that are closest to experience may be most open to change, but, he says, “no statement is immune to revision.”³⁷³ He goes on to suggest that even the law of the excluded middle may be revised to help simplify quantum mechanics. If every statement is open to revision, even our most basic logical “truths”, then it looks like modern science is not conceived of as a system of deductive explanations grounded in indemonstrable foundations. That is, it lacks the sort of foundations that the skeptical method undermines. At the same time, our scientific methodology involves theorizing and eliminating theoretical alternatives on the basis of test results. Scientific tests are designed to select among different theoretical options. Even if we cannot “verify” our theories in any absolute sense, we can reduce the number of live options.

The problem – as many philosophers have pointed out – is that the phenomena that constitute our scientific data always underdetermine the theoretical options.³⁷⁴ Sextus does not make an issue of this when he attacks the geometers although he does seem to be aware that they had multiple, incompatible definitions of their fundamental concepts.³⁷⁵ But, as will become clear in my next chapter when I consider Sextus' attack on astrology, he was well aware that different incompatible theories could explain the

³⁷³Quine (1953, 43).

³⁷⁴Duhem (1974) puts it thus: “In sum, the physicist can never subject an isolated hypothesis to experimental test, but only a whole group of hypotheses; when the experiment is in disagreement with this predictions, what he learns is that at least one of the hypotheses constituting this group is unacceptable and ought to be modified; but the experiment does not designate which one should be changed” (187).

³⁷⁵For example, the first definition of *stigmē* (point) that Sextus considers is “a sign without dimension” (*M* III 22), but after arguing against this definition, he mentions that Eratosthenes, because he recognizes the difficulties with the first definition, conceives of the point as a sign which makes a line by flowing (*M* III 28). Now, Sextus claims that both definitions are deficient. He does not claim that they both could apply to the appearances.

phenomena (M V 100-101) even if he thinks each particular explanation leaves much to be desired.

One modern response to the problem of phenomenal underdetermination is scientific anti-realism, the group of views which take the task of science, not to give us knowledge about reality as it is, but rather to provide us with practical guidance and predictive power.³⁷⁶ This family of views – although in many ways different from Sextan Pyrrhonism – finds its inspiration in the kinds of questions that Sextus raises.³⁷⁷ Since the scientist never gets behind the appearances to reach things as they are, and since any complex set of phenomena can be modeled by numerous mutually inconsistent theories, it looks as if we will never be able to narrow the possibilities down to one best theory. Why pretend that this is the purpose of scientific investigation?

Of course, scientific realists, who persist with the notion that our best theory describes the world as it is, do not simply assume that the theory of e.g. quarks and bosons latches onto the world. They have arguments for their position (and against the competing view). But, my point is that such arguments do not appeal to the observable phenomena, but to other perceived theoretical virtues of realism over and against anti-realism. This is illustrated, perhaps, most starkly in the contrast between the metaphysical claims of – for example, the realist vs. the idealist position. There are certainly good reasons to be skeptical of a Berkeleian position and to prefer a realist position in light of

³⁷⁶Duhem (1974) claims that the purpose of science is not to explain (18), but to offer a complete set of experimental laws (19) which provide a number of useful benefits, especially the ability to predict future results (27). Van Fraassen (1980) thinks that science is involved in the acquisition of knowledge and that it provides explanations, but he spells these out in terms of empirical (that is, observable) adequacy. See also, Van Fraassen (2001).

³⁷⁷In the next chapter, I will discuss some of the ways in which Pyrrhonian *technai* differ from modern anti-realist views of science.

some of the theoretical extravagances that Berkeley's system requires. But, the reasons to favor realism over idealism do not appeal to the way things appear.³⁷⁸ If this is the case, then our scientific tests on quarks and bosons, cannot demonstrate that such sub-atomic entities are real any more than the ancient geometer's position that bodies are composed of height, length, and depth.

To conclude, some methods that the Pyrrhonians developed – specifically the modes of Agrippa – were methods of investigation into the foundations and justification for dogmatic claims. While many have portrayed these methods as primarily destructive – that is, refuting or blocking dogmatic attempts to support a position rationally – I have portrayed them as attempts to push the question of support back indefinitely. This has the dual effect of causing the skeptic both to continue investigation and to suspend judgment on the issue since a decision is never reached. But while the methods were primarily designed to engage ancient foundationalism, they were used to raise questions about the methods of investigation as well. And this methodological attack has implications for our own scientific approach. I do not mean to suggest that the Pyrrhonian modes offer a refutation of modern scientific realism. What I suggest is that Sextus would be able to use the modes to suspend judgment about modern scientific realist claims even though modern science is not foundationalist in the sense that I outlined earlier.

Given their anti-foundational methodology, we might reasonably wonder whether the skeptics could pursue any investigation that we might consider scientific in any way. I will turn to this question in the next chapter. We will look at how Sextus allows for a

³⁷⁸That is, I take it that idealism can be shown to be consistent with the phenomena.

form of predictive science composed of what he calls “commemorative signs” which involve predictions based on observations. This is a science that does not rely upon theoretical models to grasp why things happen in the way they do; it relies on patterns of observed regularities to build expectations of future events.

Chapter 4: Signs in the Sky: The Empirical Demands of a Skeptical Science

Sextus begins his attack on astrology in Book V of *Against the Professors* by distinguishing between the study of the stars that he accepts and those he finds problematic. This fact makes *Against the Astrologers* a useful starting place to discuss his view on legitimate forms of expertise. Since Sextus supports certain forms of astral studies but not others, the distinctions he draws between them must point toward what makes one acceptable or not.

Sextus' critique of astrology also shows that *Against the Professors* is not simply a skeptical attack on the Greek or Roman education system. While Sextus does seem to target a fixed set of studies in the proem of the work – he calls them *enkuklia mathēmata* – our evidence suggests that astrology was not among the subjects typically studied by students at the secondary level, or so I shall argue. But if *Against the Professors* is a coherent work, as I argued in chapter 2, then, on the basis of Sextus' attack on astrology, we must understand the purpose of the treatise more broadly. In particular, Sextus claims that astrology interferes with a tranquil skeptical life (*M V 2*). This indicates the broader purpose of *Against the Professors*: Sextus means to target those subjects that he, and perhaps other skeptics, find troubling.

Before saying more about Book V, a word about terminology is necessary. Marrou notes, in his *Histoire de l'Education dans l'Antiquité*, that the Greek terms *astrologia* and *astronomia* seem to be largely interchangeable.³⁷⁹ This might lead the naive

³⁷⁹Marrou (1964, 251).

reader to think that the Greeks did not differentiate between what we call “astronomy” and “astrology”. But it is important for my thesis that Sextus distinguishes between the discipline that we would call “astrology” and an empirical study of the motion of the stars. It is true that Hellenistic and Roman cultures maintained a close connection between these two studies, and there can be little doubt that the empirical study of the stars and planets began – probably in Babylon – as a means for predicting, not only the seasons and weather, but also the fates and fortune of the kingdom and the lives of certain individuals.³⁸⁰ However, much of the early Greek astronomical literature focuses primarily on modeling the heavenly phenomena. And, not only Sextus, but also some of his contemporaries, understood these two disciplines as distinct studies. Ptolemy, for example, wrote a work on each of them; he distinguishes them in the introduction of the *Tetrabiblos*:

Of the means of prediction through *astronomia*, O Syrus, two are the most important and valid. One, which is first both in order and in effectiveness, is that whereby we apprehend the aspects of the movements of sun, moon and stars in relation to each other and to the earth, as they occur from time to time; the second is that in which by means of the natural character of these aspects themselves we investigate the changes which they bring about in that which they surround. (1.1: 3 Robbins)³⁸¹

While Ptolemy indicates that the two forms of astronomical prediction are related, they are not identical. He prioritizes them: Astronomy proper is first in priority because one must have the correct model of the universe before one can use the positions of objects in the heavens to predict changes in the sublunary world.³⁸²

³⁸⁰See Neugebauer (1969) for a good overview on Babylonian and Egyptian astronomy and its influence on the Greeks.

³⁸¹I use the Robbins translation of Ptolemy's *Tetrabiblos* (1940) with some modifications.

³⁸²Ptolemy also distinguishes them in terms of their effectiveness and precision; Ptolemy is well aware that casting horoscopes is a conjectural (εἰκαστικήν), not an exact, science (1.2 p. 14 Loeb ed.). I will

Sextus himself uses the term *astronomia* for prediction of weather patterns (storms, winds, etc) or illness on the basis of movements of the stars, while the term *astrologia* is the more general term (*M V* 1) for any kind of predictive science based on the stars. When Sextus refers to astrologers in our sense of the word, he generally calls them “Chaldeans”, as was common in the Roman era.³⁸³ Given that these ancient thinkers clearly distinguish between what we would call astrology and other studies of the stars, it is useful to differentiate the disciplines terminologically. I will use the terms “astronomy” and “astrology” in roughly their contemporary English sense where “astronomy” refers to the empirical study of the stars and planets, including the attempt to model their movements, while “astrology” refers to the casting of or study of “nativities” and the attempt to predict details about a person's life or character on the basis of his or her time of birth or conception.³⁸⁴

In this chapter, then, I will argue that Sextus attacks the legitimacy of astrology based on a particular understanding of an adequate empirical science. By spelling out the character of his attack, we can start to understand the nature of skeptical science, which Sextus implicitly accepts. It is a science composed of a collection of what he calls commemorative signs without any theory to explain the connection between the sign and the signified. Importantly, it is a science that is open to revision based on continued

discuss this point later in this chapter when I look at Ptolemy's arguments as a response to Sextan skepticism.

383 The term did not necessarily indicate Babylonian descent. See, for example, Cicero *de Div.* 1.1; Gellius *Attic Nights* 14.1.1; and Vitruvius *de Arch.* 9.6.2.

384 It is worth reminding ourselves that the contemporary meaning of these English terms fail to capture the sense in which the Greeks were also interested in predicting seasonal and meteorological phenomena on the basis of astronomical and atmospheric occurrences. As with so much of ancient philosophy and science, the Greek disciplinary boundaries do not match our own conception of these sciences.

observation of the connections between signs and their signified.

Someone might object that Sextus should suspend judgment on the criterion for an adequate science if his position is merely dialectical. But I do not claim that Sextus assented to this criterion as the correct “theory” of an empirical science.³⁸⁵ Rather, I argue that the view of skeptical science portrayed in Book V lines up with the general Pyrrhonian view that Sextus offers in his *Outlines*. This picture explains why he does not attack the astronomy taught in the schools even though, in other books of *Against the Professors*, he does attack aspects of general classical education. For these reasons, we can reasonably infer the character of a skeptical science from Book V even if Sextus himself would not express such a view dogmatically.

Before we can reach this conclusion, we must understand the content and character of the material in Book V. In the first section of this chapter, I argue that while descriptions of heavenly movements were taught to students as a core subject, perhaps at the level of secondary education, predictive astrology was not studied except as a specialized domain. This raises the question of why Sextus includes the subject in

385I should, perhaps, add that although Sextus argues against Chaldean astrology throughout *Against the Astrologers*, we should not thereby conclude that he takes a negatively dogmatic stance regarding the status of future knowledge on the basis of astrological signs (or divination or augury, etc). As I argued in chapter 2, the “destructive” arguments on their own are no evidence of negative dogmatism even if they are not accompanied by opposing arguments on the other side. Moreover, Sextus makes it clear in his other writings that he suspends judgment about astrology and divination. For example, when he introduces the modes and describes how oppositions among things help create the suspension of judgment, Sextus sketches an opposition between those who argued for divine providence (*pronoia*) on the basis of astronomical order and the skeptics, who point out that good people sometimes suffer and the evil prosper (*PH* I 32, cf. *PH* I 151). Clearly, Sextus thinks the result of this opposition is *epochē* (*PH* I 31). Similarly, in *Against the Physicists*, Sextus uses the fact that everyone believes in things like astrology and divination to argue for the existence of gods (*M* IX 132). Hankinson (1995) construes this argument as an appeal to the best explanation; that is, the existence of gods best explains the success of divination (256). In any case, this argument is in a group that are clearly meant to be opposed to the arguments against the existence of gods in order to achieve skeptical *epochē* (*M* IX 191-192).

Against the Professors, which initially appears to be an attack on education. I will then argue, on the basis of the material in Book V, that Sextus does not intend *Against the Professors* solely as an attack on secondary education; rather, he casts his net more broadly. But first, let us look at the role astrology and astronomy played in the ancient schools.

4.1. Astronomy and Astrology in Ancient Education

Our evidence regarding the role of astrology in the education system is rather sketchy, but we are on surer footing if we start by discussing advances in astronomical research. Interest in astronomical phenomena is present from the earliest recorded period in Greek history. We can see it in Homer: The description of Achilles' shield lists several constellations in addition to the sun and moon (*Iliad* XVIII 484-489), and the gleam of his spear is compared to the evening star (*Iliad* XXII 317-321).³⁸⁶ Already in Hesiod we read about the prediction of seasonal variations based on observed astronomical events; for example, in *Works and Days*, he recommends beginning harvest when the star cluster Pleiades rises above the horizon and sowing seed when it sets (383-387).

Prediction of astronomical events also figures in the beginnings of Greek philosophy – Thales was said to predict a solar eclipse in 585 (Herodotus I 74).³⁸⁷ Early

³⁸⁶Dicks (1970) claims that there is no differentiation of the planets from the so-called fixed stars in Homer (33), and that the marking of the passage of time by reference to “the state of the heavens...was well known on a purely observational basis” (34).. He also says, “There is only one slight hint [in Homer] of the idea that the stars influence human life (the fundamental tenet of astrology), and that is Il. xxii, 30-1 where the 'dog of Orion', Sirius, is said to 'bring' (*pherei*) fever to mortals; but this is hardly more than a common figure of speech, and in the same passage the star is described as an 'evil portent'” (34).

³⁸⁷Note that other early testimony of Thales attests his interest in astronomy: cf. Plato, *Theaetetus* 174a4-8 (= DK 11A9) and Aristotle, *Politics* 1259a9-18 (= DK 11A10).

Greek philosophers knew that the moon reflected light from the sun,³⁸⁸ and they figured out that the Morning Star and the Evening Star were the same astronomical body.³⁸⁹ Plato himself observes the irregular “wandering” motion of the planets (*Tim.* 38c), and he claims that nobody has quantitatively measured their movements (*Tim.* 39c,d).³⁹⁰ Simplicius says that Plato was the first to pose the problem of explaining this movement of the planets as a uniform ordered motion (*On 'On the Heavens'* 2.12 488 20-24 and 493 1-4) and that Eudoxus responded, producing the first model of planetary movement, one that uses uniform circular motions (*On 'On the Heavens'* 2.12 488 18-42 and 493 4ff).³⁹¹ According to Simplicius, Eudoxus provided a geometric account that approximated the motion of the planets by positing a system of homocentric spheres whose combined movements could explain the apparent movement of the sun (493 12 – 494 22), the moon (494 23 - 495 15) and the planets. Simplicius goes on to say that Callippus, who studied with an associate of Eudoxus, worked with Aristotle on a model which essentially follows the Eudoxan approach (*On 'On the Heavens'* 2.18 493 5-11). Aristotle clearly uses the general Eudoxan model even while he critiques details of both the Callippian and Eudoxan systems in *Metaphysics* 12.8 (1073b18-1074a16). Aristotle's discussion of the heavenly motions in *de Caelo* is largely consistent with Eudoxus' model although he

388cf. Parmenides DK 28B14 and B15 and Anaxagoras DK 59B18.

389cf. Parmenides DK 28A40a.

390Simplicius notes that Plato seems to say in the *Laws* (822a) that the planets do not wander while he says that they do in the *Timaeus*. But Simplicius explains that in the *Laws*, the Athenian stranger opposes the view that the planets wander *haphazardly*, that is, in an unpredictable path; the planetary orbits are predicable on a fixed, albeit complex, orbit. This point is consistent with the view expressed in the *Timaeus* that planetary orbits do not track a simple circular orbit (Simplicius *On 'On the Heavens'* 2.12 489 5-11).

391Diogenes Laertius attests to Eudoxus' work on astronomy, although he does not give any details regarding the content (DL VIII 86-91). Some scholars have suggested that Eudoxus was set on his research path at the Academy, but this is not clear from Diogenes who offers conflicting stories representing Eudoxus' relationship with Plato.

skips over the details, saying that they can be found in the treatises concerning *astrologia* (291a29-32).

Sextus seems to speak favorably regarding Eudoxus, as well as Hipparchus, at the beginning of *Against the Astrologers*. This may seem strange, given that he claims to have destroyed geometric accounts of astronomy (*M V* 1-2),³⁹² but I wonder if it can be a coincidence that the three figures Sextus mentions in *M V* (the two just named, plus the poet Aratus) intersect in Hipparchus' own *Commentary on the Phaenomena of Aratus and Eudoxus*. Hipparchus claims that Aratus relies primarily on Eudoxus for the material in his poem (rather than going out and making the observations himself).³⁹³ Aratus' poem – which has come to us with the title *Phainomena* – seems to have been important in astronomical education, but Hipparchus is critical of mistakes that he finds in Aratus, as well as Eudoxus.³⁹⁴ From Ptolemy, we know that Hipparchus developed Apollonius' competing model of solar and lunar motion, using eccentric and epicyclic models to better capture the movement of these heavenly bodies.³⁹⁵

Ptolemy's own work in the *Almagest*, which generally stood as the standard

392It may be that Eudoxus' account, like that of Aristotle, did not engage in any geometric calculations in the way that we see in Ptolemy's *Almagest*. Rather, Eudoxus may have simply described the motion as spherical movement in concentric spheres, and Sextus might have allowed that this simply describes the phenomena, given the rounded appearance of the heavenly dome. Toomer (1978) claims that Hipparchus is the first to “transform astronomy into a quantitative science” (220) and that Eudoxus' account was purely qualitative, which perhaps makes it all the stranger that Sextus would group these two figures together. Another possibility is that Sextus was familiar with their more accessible works, but not familiar with any of their formal geometric constructions. I will discuss the issue of Sextus' attitude toward Eudoxus and Hipparchus more below.

393Toomer (1978, 216) and Barton (2002, 22).

394Toomer (1978, 216).

395Toomer (1978, 211). On the other hand, Hipparchus did not attempt to develop a theory of planetary motion, but did argue that other astronomers could not account for the phenomena (Ptolemy *Almagest* IX, 2) cf. Toomer (1978, 218). Hipparchus also seems to have been the first to use trigonometry, and he discovered the precession of the equinoxes Toomer (1978, 209 and 217).

astronomical text until the time of Copernicus, remains the pinnacle of geocentric models of the universe. Although the *Almagest* was written in the middle of the second century AD and, therefore, pre-dates Sextus by no more than a century (perhaps much less than that), we cannot say for sure if Sextus was familiar with Ptolemy's work.³⁹⁶ Toomer claims that there is almost no hint of knowledge of the *Almagest* in any sources from the second century although it did clearly become the standard astronomical textbook by the fourth century.³⁹⁷ Nonetheless, Sextus is aware of geometric approaches to astronomy even if he had not read the *Almagest* (M V 1).

While astronomical research started from the earliest times, our evidence suggests that astrology of the type Sextus describes did not enter the Greek cultural milieu until much later. That is not to say that early Greeks did not take interest in predictive arts like divination and oracles, as we see in Homer (*Il.* 1.62-67) and Herodotus (I 47-56). But, it is also true that these predictive arts elicited controversy and not a little skepticism. Cicero claims that, of the ancient thinkers, only Xenophanes of Colophon wholly rejected divination (*de Div.* I 5). We see one side of the debate in the fifth century medical treatise *The Sacred Disease* whose author opposes the *magoi* and purifiers by arguing that epilepsy has natural, rather than divine, causes. The Hippocratic author clearly portrays his opponents as having astronomical and meteorological interests, saying,

For if they take themselves to know how to destroy the moon and extinguish the sun, and to produce both cold and fair weather, and storms and drought, and sea and barren land, and every other similar thing, and if they say that it is possible to produce these things from rites and from certain other knowledge and practices in

³⁹⁶As discussed in n30, Sextus was probably active sometime between the late second and mid-third century.

³⁹⁷Toomer (1984, 2 n2).

which they are trained, they seem to me to be impious and to think the gods either do not exist or (if they do exist) are not strong, nor would they hinder any of the extreme things. If they do these things, how are they not terrible to them [the gods]? For if a person practicing magic and sacrificing will destroy the moon and extinguish the sun and produce cold or fair weather, I myself would not consider any of these things to be divine; rather they are human if the power of the divine was controlled and enslaved by human knowledge. (VI 1.68-79)³⁹⁸

Obviously, the Hippocratic author is hostile toward these *magoi*, so his account can not be taken wholly at face value. But I think that we can conclude from this passage that some fifth century Greek cultic figures took an interest changes in the sun and moon (perhaps a reference to eclipses), as well as meteorological phenomena, no doubt – in part – because such changes were necessary for keeping track of the calendar for the rites.³⁹⁹ Thus, the intersection of astronomy and cultic practices was a source of some controversy at this early date.⁴⁰⁰ Intellectual and philosophical responses to divination were, likewise, far from univocal. Plato clearly treats some *mantides* with respect (Diotima) and others with ridicule (Euthyphro). Aristotle wrote a short treatise on divination in dreams.⁴⁰¹

398Εἰ γὰρ σελήνην τε καθαιρέειν καὶ ἥλιον ἀφανίζειν καὶ χειμῶνά τε καὶ εὐδίην ποιεῖν καὶ ὄμβρους καὶ αὐχμούς καὶ θάλασσαν ἄφορον καὶ γῆν καὶ τᾶλλα τὰ τοιούτοτροπα πάντα ὑποδέχονται ἐπίστασθαι, εἴτε καὶ ἐκ τελετέων εἴτε καὶ ἐξ ἄλλης τινὸς γνώμης ἢ μελέτης φασὶν ταῦτα οἶόν τ' εἶναι γενέσθαι οἱ ταῦτ' ἐπιτηδεύοντες, δυσσεβέειν ἔμοιγε δοκέουσι καὶ θεοὺς οὔτε εἶναι νομίζειν οὔτ' ἐόντας ἰσχύειν οὐδὲν οὔτε εἰργεσθαι ἂν οὐδενὸς τῶν ἐσχάτων, ὧν ποιοῦντες πῶς οὐ δεινοὶ αὐτοῖσιν εἰσιν; εἰ γὰρ ἄνθρωπος μαγεύων τε καὶ θύων σελήνην τε καθαιρήσει καὶ ἥλιον ἀφανιεῖ καὶ χειμῶνα καὶ εὐδίην ποιήσει, οὐκ ἂν ἔγωγέ τι θεῖον νομίσαιμι τούτων εἶναι, ἀλλ' ἀνθρώπινον, εἰ δὴ τοῦ θεοῦ ἡ δύναμις ὑπὸ ἀνθρώπου γνώμης κρατέεται καὶ δεδούλωται (*The Sacred Disease* 6.1.68-79)

399Ancient medical interest in meteorology is also obvious from *Airs, Water, Places* whose author tells us that *astronomia* is a great part of medical knowledge because diseases and digestion change with the seasons (L II 15-19).

400For more on Hippocratic debate over magic, see the first chapter of Lloyd's *Magic, Reason and Experience* (1999). Obviously, the connection between astrology and medicine continued for generations, as the relationship between medicine, magic and astrology is still a point of discussion even in the time of Galen (cf. *de Nat. Fac.* 1.12.29) Likewise, Ptolemy mentions astrological-medicine in several places (*Tetrabiblos* I.3, I.4.3, III.13.4-6)

401In his treatise *On Memory*, Aristotle indicates that some call divination (*matikē*) the science (*epistēmē*) of expectation (449b11-13). But, in his *Ethics*, he also uses divination as an example (along with medicine) of a discipline that attracts quacks who use deception to hide their lack of skill (*EN* 1127b17-20).

Chaldean astrology itself appears to have entered into the Greek context during the Hellenistic period.⁴⁰² Neugebauer remarks that the teaching of Berosus in the third century on the island of Cos is generally thought to be the occasion of the transmission of Babylonian astronomical knowledge.⁴⁰³ Vitruvius makes it clear that Berosus was teaching not just the empirical study of the stars, but also the casting of nativities (*de Arch.* 9.6.2). So the philosophical debate about astrology proper probably only developed in Greece after Alexander's conquest, with the Stoics and the Academics representing the 'for' and 'against' sides respectively.⁴⁰⁴ The Stoics tended to favor various forms of astrology and divination because these studies fit well with their theory of a providentially ordered, deterministic cosmos.⁴⁰⁵ Carneades, the Academic, famously argued against divination;⁴⁰⁶ and we have a number of sources which record Carneades' arguments, including Cicero, Aulus Gellius and Sextus himself. Cicero, in his typical Academic fashion, debated both sides of the question in his *de Divinatione* which includes some arguments about astrology (*de Div.* I 130, II 87-99) in addition to the more general discussion regarding divination and augury. Academic skepticism about astrology is recorded by Aulus Gellius in his *Attic Nights* where he recounts a lecture that

402Neugebauer (1969, 80); Tester (1987, 12).

403Neugebauer (1969, 157); Tester (1987, 15–16). Barton (2002, 22–23) also mentions Sudines, a Babylonian astrologer cited by Strabo (16.1.6), as a possible source of astrological knowledge in the third century BCE.

404Note that Cicero apparently quotes Eudoxus disparaging Chaldean astrology (*de Div.* II 87), but scholars generally do not consider this a reliable indication that astrology was practiced in Greece in the mid-fourth century. For more on this, see Neugebauer (1969, 188). Long (1982, 166–172) argues that “astrology was at most a subordinate feature of the earliest Stoic interest in divination” (169) and only became of significant interest for the Stoics after the mid-second century BCE.

405See for example, *de Div.* I 6, 125-126; *de Natura Deorum* [=ND] II 12-16, 75; also, Stobaeus I 79, 1-12.

406For a good discussion of Carneades' arguments, see Hankinson (1988). Carneades seems to have argued against divination rather than astrology. Long (1982, 169) speculates that early Hellenistic philosophers did not engage with astrology in their writing for historical reasons: It had not yet taken hold or been thoroughly introduced from the east at that time.

he heard Favorinus give against the Chaldeans (Book XIV chapter 1). This illustrates that, although astrology and divination enjoyed some public and state support during the Roman era,⁴⁰⁷ that support was not universal. S. J. Tester, in his history of western astrology, emphasizes the Roman ambivalence toward it: Emperors had their personal astrologers, but those who fell out of favor with the authorities were often expelled from the city.⁴⁰⁸ In light of this cultural backdrop, we should not be surprised when Ptolemy feels the need to begin his *Tetrabiblos* with a defense of astrology as an art (*technē*).⁴⁰⁹ Given that his defense is roughly contemporary with Sextus' own attack on astrology, it is safe to say that the status of astrology as a proper domain of knowledge was controversial in Sextus' time, and this too may help explain its status relative to the ancient educational curriculum.⁴¹⁰

While we know something about the development of ancient astronomical theories, we know less about how the subject was taught in schools. The early Pythagoreans included astronomy with the other traditional subjects of the quadrivium, geometry, arithmetic and music. Archytas makes it clear that their interest was in the

407Tester (1987) cites the large number of horoscopes collected on papyrus as “ample evidence of the widespread interest in the practice of astrology in these first two centuries of our era” (46). He goes on to say that the horoscopes “are drawn up for individual citizens as well as for emperors and governors, and astrology is clearly becoming popular, at least in the Greek cities of Hellenistic Egypt and the Near East”. The second chapter of Barton (2002, 32–63) provides a good overview of the history of astrology in Rome.

408For example, Tester (1987) mentions “Augustus's decree of 11 A.D. [which] made illegal the holding of any private or secret consultation with 'diviners', and the predicting of anyone's death” (50–51). cf. Barton (2002, 36). Barton (2002, 39–41) also argues that astrology grew in importance under Augustus although he may have later realized that astrological predictions could be used against him (42).

409Tester (1987, 69) claims that Ptolemy probably drew on Posidonius, the Stoic teacher of Cicero, for his defense of astrology in the first few chapters of *Tetrabiblos*.

410Some place in here I need to talk about the way in which astrology was still very much in development and there were many different conflicting approaches. Tester does a good job talking about this, esp. on pp. 46–49 and 56.

movement of the stars, their rising and settings (apud Porphyry, *On Ptolemy's Harmonics* 56.2-10 [=DK 35b1]).

During the fourth century, astronomy probably became part of the educational core in Athens. Isocrates speaks in favor of the forms of education passed down by the ancestors among which he counts *astrologia*, along with geometry and eristic debate (*Panath.* 26). Plato places the four traditional “mathematical” subjects together in *Republic* VII when Socrates describes the education of the guardians (522a-534e, with *astronomia* figuring particularly at 528d-530e); in *Laws*, the study of the movement of the stars is one of just three subjects – along with arithmetic and geometry – that are appropriate for a liberal education (817e5-822c). If the study of stars was not widely taught at the beginning of the fourth century, we can be relatively confident that it became part of the curriculum at the Academy and other schools before long. Unfortunately, the content of these studies and the age at which they would be studied are impossible to pin down.

The place of astronomy in the curriculum during the Hellenistic era is even more difficult to determine. Scholars tend to affirm astronomy's popularity and connect it to the role that it played, both in practical spheres like farming and navigation, but also in literature and astrological predictions.⁴¹¹ We have some introductory astronomical texts, such as Aratus' poem *Phainomena* and Geminus' *Introduction to the Phenomena*, and they may have been written for use in a beginner's course.⁴¹² However, scholars dispute the level at which astronomy was taught. Clarke claims that Aratus' poem was used as a

⁴¹¹See, for example, Clarke (1971, 50) and Marrou (1964, 251, 253–255).

⁴¹²Teachers may have used them for this purpose, even if that was not the original author's intent.

schoolbook, and that its widespread use and popularity is evidenced by the various commentaries and Latin translations of the poem.⁴¹³

In contrast, Marrou argues that during the Hellenistic period, the teaching of the mathematical sciences decreased to the point of being “practically eliminated” from all but the most specialized educational program.⁴¹⁴ Marrou does not dispute the importance of Aratus in secondary schooling, but he claims that the literary nature of the poem took the front-seat in studies to such an extent that “astronomy appeared as something essentially literary” and that mathematics and astronomy were a minimal part of the secondary curriculum.⁴¹⁵ Marrou says this trend continued in Roman education; borrowing from the Greeks, “the Romans developed the habit of studying astronomy with the mythological rather than mathematical work of Aratus, and generally sacrificing science to literature—to be more precise, to commentaries on works of literature.”⁴¹⁶ This suggests that, on Marrou's view, astronomical education in Sextus' time would not have been an empirical study of the heavens; the goal would not have been understanding

413Clarke (1971, 49–51). Poochigian (Poochigian 2010)

414Marrou (1964, 252). Marrou mainly appeals to the lack of evidence that we have about students learning mathematics and science in secondary school. He also cites a biography of Proclus, which claims he had a “purely literary” early education (Maninus V. *Proclus*, 8), as well as the work of Theon of Smyrna which I discuss below.

415Marrou (1964, 254–255).

416Marrou (1964, 379). In the accompanying endnote (n33) he says, “Except for future scholars and philosophers, there was usually no specialised teaching of science in liberal education...The only evidence pointing the other way is to be found in the biographies in the *Historia Augusta*...” (560) He goes on to say that the education of the future emperors may have included math, but that just indicates that it was unusual. Several other scholars have expressed doubts about whether Aratus' poem was meant to be didactic; Volk (2002) notes that although the poem contains a number of didactic features, it is “more like epic” than didactic poetry (56). However, she does agree that the poem was used as a textbook throughout antiquity, whatever the intent of the author (55). Fatuzzi and Hunter (2005) suggest that the standard scholarly view is that Aratus wrote his poem as a “virtuoso exercise” rather than for any didactic purpose (226), but they point out that the adoption of the poem for pedagogical purposes may indicate that the didactic status of Aratus' work was in fact intentional (228). Similarly, Poochigian argues that the poem's didactic claims should be taken at face value (2010, xvi).

the movement of the stars and planets, but understanding the poem and its mythological import.

Marrou uses Theon of Smyrna to support his claim that the sciences were not being taught at the secondary level by the second century AD,⁴¹⁷ but it is not clear that Theon's work demonstrates this. When Theon begins his *Mathematics Useful for Understanding Plato*, he says that gaining knowledge of geometry, music and astronomy is not easily achieved; it requires hard work from childhood (he later adds arithmetic and stereometry). He explains that the purpose of his work is to provide a summary of subjects necessary to understand Plato's writings for those who failed to be practiced in these subjects but who still want to gain the knowledge that Plato offers.⁴¹⁸ At most, this shows that some students lacked early mathematical and scientific training. More importantly, it demonstrates that around the time of Sextus, the central mathematical subjects were still seen as preparatory for more advanced philosophical study.

From a certain standpoint, the educational *level* at which astronomy was taught matters less – for the purpose of understanding Sextus – than the fact that he considers astronomy one of the subjects to include in *Against the Professors*. It is more important to determine the content of this astronomical education. If we assume that something like the *Phainomena* by Aratus was used as an introductory course in astronomy, there are a number of things that we can say about the sort of material students learned. The poem divides roughly into two distinct parts: The first part describes the constellations and movement of the stars, moon, and sun (1-757); the second suggests how one might

⁴¹⁷Marrou (1964, 253).

⁴¹⁸Hiller (1878, 1).

predict various occurrences by observing the heavenly bodies and meteorological signs (758-1154). It is true that Aratus appeals to many mythological stories when he describes the stars – for example, he says, “Nor will the suffering family of Cepheus, son of Iasius, be just left unmentioned: their name also has reached the sky, for they were akin to Zeus. Behind the Bear Cynosura Cepheus himself is like a man stretching out both his arms” (179-183).⁴¹⁹ But much of the text is focused on the position of the constellations relative to each other and their annual cycles, and this gives some readers the impression that it was meant to help students locate each group of stars and learn how to tell the passage of time through out the year. Perhaps the most surprising aspect of Aratus' lesson is that he leaves out the planets:

But there are five other stars among them, but quite unlike them, that circulate all the way through the twelve figures of the zodiac. You cannot in this case identify where these lie by looking at the other stars, for they all change their positions. The years of their orbits are long, and at long intervals are their configurations when they come from afar into conjunction. I am not at all confident in dealing with them: I hope I may be adequate in expounding the circles of the fixed stars and their guide-constellations in the sky. (454-461)

Although Eudoxus had already accounted for planetary motion using the regular movement of concentric spheres well before Aratus was writing, the poet leaves this information out of his instruction, perhaps due to his own lack of knowledge (as the poem itself seems to suggest) or perhaps because he viewed it as too advanced for his students.

The latter portion of Aratus' poem deals with signs and portents especially focusing on weather patterns. It includes numerous references to sailors and farmers (as indeed the first part of the poem also does). Aratus tells us that Zeus has given signs to

⁴¹⁹I use Kidd's translation of Aratus (1997).

help us determine when a storm will come (758-760) or when a farmer should plant (741-743). The poem does mention a host of signs: “For we men do not yet have knowledge of everything from Zeus, but much still is hidden, whereof Zeus, if he wishes, will give us signs anon; he certainly does benefit the human race openly, showing himself on every side, and everywhere displaying his signs” (768-772). Many of these signs involve predicting storms: “Nor do dark haloes close to the sun portend fair weather: the closer they are and the more unwaveringly dark, the stormier their forecast, and two will mean an even greater storm” (877-879). There are signs for wind, for rain, for fair weather and for seasonal changes; all of these signs are obviously useful for helping sailors avoid catastrophe on the sea and helping farmers and herders care for their crops and flocks.⁴²⁰

Aratus does not introduce signs for predicting the fate and fortunes of individuals. There are no horoscopes or references to nativities in the *Phainomena*. This suggests that astrology – although closely associated with astronomy – did not figure in the introductory courses on the heavens.⁴²¹ Scholars seem to agree on this; Marrou says, “there is no indication that astrology had got into the schools, or that it figured on the syllabus of liberal education.”⁴²² Of course, this is not to say that there were not people teaching astrology. As I’ve already mentioned, Vitruvius says Berosus taught astrology to

⁴²⁰We see many of these and similar predictions in Aristotle’s *Meteorologica*. For example, Aristotle mentions halos as a sign of impending rain (*Meteor.* III 3 372b18-20).

⁴²¹Germinus, in chapter ii of his *Introduction to the Phenomena*, does mention zodiacal aspects and the role that they play in nativities, although he does not go into any details about how to calculate said nativities.

⁴²²Marrou (1964, 251). Clarke (1971) seems to agree with this assessment: “There were many too in later antiquity who believed that their destinies were determined by the stars, and this may have contributed to the popularity of the subject [of astronomy] though, whatever might be said by critics of the liberal arts like Seneca and Sextus Empiricus, who professed to regard astronomy as no more than astrology, the schools confined themselves to description of the heavenly bodies and did not teach how to cast horoscopes” (50). Of course, as we will see, it is false that Sextus regarded astronomy as no more than astrology.

Antipater and Athenodorus at Cos (*de Arch.* IX 6).⁴²³ But education in the casting of nativities probably only functioned as specialized training and not part of one's general education.⁴²⁴ This view is explicitly and repeatedly confirmed by Vettius Valens – roughly a contemporary with Sextus – who charges his readers to keep his teachings hidden and not to share them with the uninitiated.⁴²⁵

What I've argued in this section is that while astronomy – understood as the empirical study of the movement of the stars, moon and sun – was part of the core curriculum, it does not appear that astrology – understood as the casting of nativities – was taught outside of specialized schools. This raises the question whether book V of *Against the Professors* fits with the stated purpose of Sextus' work on education. In the next section, I will address this question, and I will argue that book V only fits in *M I-VI* if one understands the purpose of the work to extend beyond simply an attack on the education system in the second or early third century's Greek and Roman context. Sextus has a broader purpose, namely criticizing those subjects and forms of education that he thinks threaten the skeptical way of life.

4.2. Does *M V* fit in *Against the Professors*?

In *Cause and Explanation in Ancient Greek Thought*, Hankinson calls *Against the*

⁴²³Josephus (*Against Apion* 1.129) and Pliny the Elder (*Natural History* 7.193) also mention Berosus as a Chaldean astrologer. cf. Barton (2002, 9, 23).

⁴²⁴Barton (2002, 135–137) argues that astrology was taught using an master – apprentice model common in the transmission of *technai*. But, she also emphasizes the analogy with mystery cult which was common in ancient forms of expertise as well as philosophy.

⁴²⁵Barton (2002, 136) quotes 4.11. Tester (1987) quotes 1.11 as well as the proem to Book 7, and he emphasizes that this is not evidence that astrology was “*from the beginning* some sort of arcane knowledge disclosed only to initiates, and derived from far-off Egyptian priests” (49 – my emphasis).

Astrologers “a self-contained essay devoted to demolishing the Chaldeans' pretensions.”⁴²⁶ One might consider Sextus' book self-contained not only in the sense that it does not rely on the broader content of *Against the Professors* to make its attack on the Chaldeans, but also because it does not seem to fit with the project of the treatise as Sextus describes it in *M I*.⁴²⁷ Indeed, in this section, I will deny that Sextus intends to argue against astronomy or astrology as a core subject taught in the schools.⁴²⁸ He not only leaves unquestioned the legitimacy of the astronomy taught in schools, in contrast to the astrology practiced by the Chaldeans, but he even indicates that he supports it. Thus, the book raises the question about Sextus' purpose in writing *Against the Professors* since the treatise as a whole cannot simply be an attack on the ancient education system. Rather, Sextus provides a cultural critique in *Against the Professors* by focusing his attack on the subjects he views as disputable, while largely ignoring those subjects that he considers to be consistent with the skeptic's criterion of action. First, let us give a brief overview of the structure and organization of *Against the Astrologers*.

Sextus begins *M V* by distinguishing the types of *astrologia* and focusing his attack on the astrology of the Chaldeans (*M V* 1-3). He recounts the teaching of the Chaldeans, making it clear that he is no expert in the subject (*M V* 5). He explains the

⁴²⁶Hankinson (1998, 292).

⁴²⁷I am not suggesting that Hankinson means “self-contained” in this latter sense. Nor am I suggesting that anyone would think *M V* was not originally part of *Against the Professors* as a whole. It is clear that *M V* does belong in the work as Sextus makes a passing remark about having already argued against the geometers and arithmeticians (*M V* 1) and he also includes a transitional statement in the conclusion to the effect that he will offer an study against the musicians (*M V* 106).

⁴²⁸As I pointed out earlier, Clarke (1971, 50) claims that Sextus conflates astrology and astronomy, regarding it as one of the liberal arts taught in the schools. Barnes (1988, 55–56) implies, at least, that Sextus considers astrology to be one of the standard liberal arts. Hankinson (1995) likewise says that the subject of *M I-VI* is the “pretensions of the practitioners of six of the seven canonical ‘liberal arts’ (*technai*) that were to form the foundation of the mediaeval curriculum” (251).

structure and signs of the zodiac (4-22), and the methods for measuring out the zodiac (23-26) and for determining the sign at the time of birth (27-28). Then he gives a sketch of the character of the planets and their respective powers (29-40); he ends his overview by outlining the types of predictions that the Chaldeans make which depend on whether the prediction is made with reference to the location of a single star or whether the prediction considers the relative location of all the heavenly bodies (41-42). He says,

The general [predictions] are the ones that happen according to a sign or the power of a single star; for example, that when this star is in this sign, it produces these sorts of people. But the more specific [predictions] are the ones that happen in accord with a concurrence and, as they themselves say, the ones that happen in accord with a combination of many influences; for example, that if this star is ascending, and that one is in mid-heaven, and that other one opposite mid-heaven and the others hold thus, these things will happen. (*M V 41-42*)⁴²⁹

The Chaldeans make two kinds of predictions. They predict that people born under a particular sign tend to be a particular type of person, as we might expect today when people who talk about astrology claim that a Gemini is quick-witted but restless, or that an Aries is bold and aggressive. But the Chaldeans also make more specific or precise predictions based on the location of several stars and planets; ideally, the location of all of the planets and fixed stars would be considered. Sextus does not tell us the content of such a specific prediction here, although later he mentions predictions about the type of death a person might suffer (*M V 91*) or whether someone will face debt or have children (*M V 101*).

Since Sextus does not give us much in the way of detailed predictions, it is

⁴²⁹καὶ ἀπλούστερα μὲν τὰ κατὰ ζῳδιὸν ἢ ἀπλὴν ἀστέρος δύναμιν γινόμενα, οἷον ὅτι ὁδε ὁ ἀστήρ ἐν τῷδε τῷ ζῳδίῳ γενόμενος τοιούτους ποιεῖ, ἀκριβέστερα δὲ τὰ κατὰ συνδρομὴν καὶ, ὡς αὐτοὶ λέγουσι, τὰ κατὰ σύγκρασιν πλειόνων, οἷον ἔαν ὁδε μὲν ὠροσκοπῇ ὁδε δὲ μεσουρανή ὁδε δὲ ἀντιμεσουρανή οἱ δὲ ἄλλοι οὕτως ἔχωσι, συμβήσεται τὰδε' (*M V 41-42*).

difficult to characterize his Chaldean opponents with much precision. But, it appears that he says the Chaldeans practice both of what Hankinson calls “Weak” and “Strong” astrology. Hankinson defines “Strong Astrology”, saying that it involves “concrete, falsifiable predictions, which were (or at the very least in principle could have been) regularly seen to fail,”⁴³⁰ whereas “Weak Astrology” tends to make predictions that “are at best going to be vague, and at worst lacking in any content at all.”⁴³¹ In other words, Strong Astrology is testable, whereas Weak Astrology can be experimentally unfalsifiable (although it may be open to other criticisms).⁴³²

The remainder of the fifth book catalogs arguments against the Chaldeans. As with the attack on the musicians, Sextus divides the arguments into two groups. He attributes the first group of arguments to others, the majority (*hoi pleious*), while he takes ownership of the second group. There are two arguments employed by the many: Sextus says that some argue “rather rustically” (*agroikoteron*) against the notion of *sumpatheia* – the idea that the things on earth interact with the heavens or are affected by them – by denying a unity among the parts of the universe (*M V* 42-44). Others argue that astrological prediction is either useless or impossible based on notions of necessity, chance and voluntary action (*M V* 45-48).⁴³³ At *M V* 49, Sextus transitions to the second group of arguments, and he makes it clear that they are characteristically Pyrrhonian:

⁴³⁰Hankinson (1988, 133).

⁴³¹Hankinson (1988, 135).

⁴³²Hankinson cites Cicero's account of Diogenes of Babylon as someone who holds to Weak Astrology.

Cicero claims that Diogenes accepts that the Chaldeans can predict the nature and the matter to which a child is best suited, but he denies that specific predictions are possible (*de Div.* II 90). The evidence from both Cicero and Sextus indicate that the Chaldeans practiced Weak *and* Strong Astrology. In what follows, I'll point out the way that Sextus attacks both forms of astrology.

⁴³³On this argument, see Hankinson (1995, 258–259)

So the majority try to destroy the Chaldean method through these sorts of shots, but, for ourselves, after we disturb the first principles and its so-called elements according to our same⁴³⁴ manner of attack, we will have nullified the structure of their remaining theorems with them too. (*M V 49*)⁴³⁵

Sextus says he seeks to attack the subject by undermining its fundamental assumptions and principles. Recall in *M VI*, he attacks the musical elements of melody and rhythm by denying the existence of sound and time respectively. Similarly, most of *Against the Geometers* recounts arguments against the fundamental geometric concepts of the point, line and plane. In the case of astrology, Sextus identifies the horoscope as the starting point (*archē*) for Chaldean predictions. It is perhaps a little surprising that Sextus does not argue that the horoscope cannot exist or that it is an incoherent notion, as we have seen him do for other topics. Rather, he makes an epistemological argument; the horoscope is inapprehensible (*akatalēpton*) because (a) the time of birth cannot be determined, (b) the instrument that marks this time is inconsistent and (c) the rising of the sign cannot accurately be seen (*M V 50-54*). Sextus spends the majority of the remainder of the book arguing for these three interrelated points (*M V 55-94*). The resulting conclusion is that the Chaldeans cannot determine the horoscope sign and as a result, they cannot determine the applicable prediction.⁴³⁶

The final section of the book raises questions about astrological explanations. For

434Note that the manuscripts and Bekker have ὅμοιον, but Bury changes it to ὁμοθεν and interprets it as an "attack at close quarters" in contrast with the shots from far away. I take it that Sextus is referring to the type of attack that he has used before, namely arguing against the principles and elements of the science in order to undermine the whole art.

435Οἱ μὲν οὖν πλείους διὰ τοιούτων τινῶν ἀκροβολισμῶν πειρῶνται τὴν Χαλδαϊκὴν μέθοδον ἀναιρεῖν· ἡμεῖς δὲ κατὰ τὸν ὅμοιον τῆς ἐπιχειρήσεως τρόπον τὰς ἀρχὰς καὶ ὥσπερ στοιχεῖα ταύτης κινήσαντες ἔξομεν <οὖν> αὐταῖς καὶ τὴν τῶν λοιπῶν θεωρημάτων σύστασιν ἠθετημένην. (*M V 49*)

436For similar take on this passage, see Hankinson (1995, 259, 260).

example, Sextus wonders why a man's being born under the sign of Leo should explain his tendency toward courage and manliness, but the Bull is a womanly animal (*M V* 95-96). The signs cannot be so named because of their resemblance to their namesakes (*M V* 97-99). Sextus demands an explanation that closes the gap, as it were, between one being born under a particular sign and being brave. Is it because Leo changes the air which causes the virtue in question? Sextus thinks this explanation implausible. But he insists that either something must explain the connection between the birth under a particular sign and the characteristic in question (*M V* 100-102), or the sign and signified must be observed together repeatedly (*M V* 103-105). Thus, the book ends with Sextus making a demand for repeated correlative measurements as the basis for inductive inference.⁴³⁷ I go into these arguments in more detail in a later section, but let this suffice as an overview of the book for now.

An ancient reader of Sextus' attack on the “cyclical studies” might very well have been surprised by the content of *Against the Astrologers*. It is not surprising that someone would argue against the Chaldeans; I've already indicated that Sextus was writing during a period of active debate regarding the legitimacy of astrology and divination. What is strange about *M V* is that Sextus does not attack the content of astronomy as it was taught in the schools, but instead focuses his attack on the more specialized subjects of horoscopes and astrological prediction. As we've seen, it appears that these topics would *not* have been part of the *enkuklia mathēmata*, the general studies that Sextus indicates

⁴³⁷It is perhaps important to note that this demand is still quite loose from our own scientific standards; as moderns are fond of saying, “correlation does not equal causation”.

are well known and common to a certain segment of the population (*M I 7*).⁴³⁸ Moreover, he seems to approve of astronomy as it was taught in the schools, and instead to attack another more specialized albeit related subject. In other words, *Against the Astrologers* shows that Sextus is not simply interested in attacking the education system; he intends to critique other subjects too. At the same time, it is reasonable to assume that the intelligent reader would have recognized (and perhaps wondered at) the fact that Sextus strays from his stated focus. This demands an explanation: What is it about astronomy as it was taught in school that causes Sextus to avoid attacking it? And why does he focus his attack on horoscopes and astrological prediction instead?

These questions can be answered, in part, by taking a closer look at the opening of *M V* where Sextus explains his plan for the book. He begins *Against the Astrologers* by distinguishing the types of astrology and stating that he intends to attack only the astrology of the Chaldeans. He says,

Concerning *astrologia* or the “mathematical” expertise, we do not propose to investigate into the complete form constructed out of arithmetic and geometry (for we have argued against the experts of those studies), nor into the predictive ability that is developed by Eudoxus and Hipparchus and similar people which some call astronomy (for it is observation of appearances just like farming and navigating, from which one foretells both droughts and heavy rains, plagues and earthquakes and other similar sorts of environmental change). Rather, we propose to investigate against the genethliological study [i.e. the casting of nativities] which the Chaldeans adorn with more holy names: They proclaim themselves mathematicians and astrologers, while, in many ways, they disparage *Life*⁴³⁹ and build up against us a great fear of spiritual matters, permitting no activity according to correct reason. (*M V 1-2*)⁴⁴⁰

438Of course, Sextus also does not attack reading and writing (*M I 49*) or musical performance (*M VI 1-3*), but his attack on astrology is perhaps the most striking case insofar as the object of his refutations in book V would not have been taught except in the most specialized context.

439For an explanation of my use of *Life* as a translation for *bios*, see n237.

440 Περὶ ἀστρολογίας ἢ μαθηματικῆς πρόκειται ζητῆσαι οὐτε τῆς τελείου ἐξ ἀριθμητικῆς καὶ γεωμετρίας συνεστῶσης (ἀντειρήκαμεν γὰρ πρὸς τοὺς ἀπὸ τούτων τῶν μαθημάτων) οὐτε τῆς

Sextus distinguishes between three possible interpretations of the term *astrologia*. Each of these forms, as outlined in the previous section, was actively researched during the Hellenistic and Roman periods. The first type of *astrologia* is the most complete or perfect (*teleion*) form, which involves arithmetic and geometric models of heavenly movements. I take it that Sextus is referring to works like Ptolemy's *Almagest* here. It is important to see that Sextus does *not* affirm this form of astronomy (it is probably closest to our modern use of the term), nor does he indicate that astronomy based on geometric models is legitimate science. Rather, he notes that he has already attacked geometry and arithmetic in general, so there is no need to attack them again in some particular application. If geometry itself is incoherent, then a geometric model of the universe will also be incoherent.

The second form of *astrologia* that Sextus sets aside is what some of his contemporaries called “astronomy” which he says is limited to observation. This is not the astronomy of which we speak when we use the term today. Of course, we think our astronomy is based on observation insofar as the model predicts the future (observable) positions of the stars and planets, but that is *not* what Sextus is talking about when he uses the term “astronomy”. Rather, he describes an expertise that allows the practitioner to predict future environmental and seasonal changes. He specifically mentions severe weather, epidemic, and earthquake. We have already seen examples of this in Aratus'

παρὰ τοῖς περὶ Εὐδοξον καὶ Ἰππαρχον καὶ τοὺς ὁμοίους προρρητικῆς δυνάμεως, ἣν δὴ καὶ ἀστρονομίαν τινὲς καλοῦσι (τήρησις γὰρ ἐστὶν ἐπὶ φαινομένοις ὡς γεωργία καὶ κυβερνητική, ἀφ' ἧς ἔστιν αὐχμούς τε καὶ ἐπομβρίας λοιμούς τε καὶ σεισμούς καὶ ἄλλας τοιούτωδεις τοῦ περιέχοντος μεταβολὰς προθεσπίζειν), ἀλλὰ πρὸς γενεθλιαλογίαν, ἣν σεμνοτέροις κοσμοῦντες ὀνόμασιν οἱ Χαλδαῖοι μαθηματικούς καὶ ἀστρολόγους σφᾶς αὐτοὺς ἀναγορεύουσιν, ποικίλως μὲν ἐπηρεάζοντες τῷ βίῳ, μεγάλην δ' ἡμῖν ἐπιτειχίζοντες δεισιδαιμονίαν, μηδὲν δὲ ἐπιτρέποντες κατὰ τὸν ὀρθὸν λόγον ἐνεργεῖν. (M V 1-2)

Phaenomena, the second half of which is full of signs that can be used to predict storms or wind or fair weather.⁴⁴¹

Given that the skeptic claims to suspend judgment about everything, it might surprise some that Sextus does not dispute every possible science.⁴⁴² But Sextus gives his reason for allowing it; namely that, “it is observation limited to the appearances [*tērēsis epi phainomenois*]” (*M V* 2). This explanation calls to mind his discussion of the *kriterion* of skepticism. Recall that Sextus says the skeptic has a criterion of action which he says is appearance (*phainomenon*) (*PH I* 22), and when he expands on this, he says that, while the skeptic attends to the appearances, she “lives without belief according to lived observance [*kata tēn biōtikēn tērēsin*]” (*PH I* 23). Sextus then goes on to describe four types of observance (*tērēsis*) which characterize the skeptic's lived experience (Recall that one of these – the teaching of *technē* – is at the center of the *Teaching Expertise* problem that was discussed in the first chapter (§1.3)). Thus, although Sextus does not explicitly say so in the prologue of *M V*, it is quite reasonable to infer from the language he uses to describe the astronomy of Eudoxus and Hipparchus that he considers

441It is perhaps tempting as a modern reader to think that, when Sextus says it is not appropriate to attack “astronomy” because it is based on the appearances, he is talking about our own empirical astronomy. Really, Sextus favors an empirical study that uses heavenly phenomena to predict the weather and illness and earthquakes. We might wonder why he would think a “science” can predict the occurrence of a plague, say, on the basis of astronomical observation, and why this should count as observance based on the appearances. In part, Sextus and other students of “astronomy” do not differentiate clearly between what we might call atmospheric versus astronomical phenomena. As we saw above, Sextus prefers an “astronomy” that includes meteorological observations like the example from Aratus that appeals to “halos” around the sun – surely an atmospheric effect – as a sign of pending storm. We allow both the prediction of weather on the basis of observed meteorological data and prediction of the seasons on the basis of astronomical markers. These constitute “observation based on the phenomena” even if we ourselves normally assign these to different, distinct sciences. For Sextus, they are all part of the same science, and he indicates that this is not a science that he rejects.

442There is a sense in which he does attack every science, namely when he attacks learning in general (*M I* 9-40).

it a form of expertise that falls under the umbrella of the skeptical criterion. In other words, it is the job of this type of astronomy – on Sextus' view – to describe the heavens as they appear, not to investigate whether they are as they appear (*PH* I 19). Sextus says that it is not part of the skeptical way of life to raise controversies over the appearances (*PH* I 22). It is suggestive to note that the works of both Eudoxus and Aratus were called *Phainomena*,⁴⁴³ a title that reminds us of the skeptic's criterion of action. Here then, we see an example of a skeptically acceptable *technē*; Sextus actually mentions three: astronomy, farming and navigation (*M V* 1-2). What these have in common is that they are limited to observing the appearances. In this sense, Sextus affirms empirical forms of expertise.

The final form of *astrologia* that Sextus picks out is that of the Chaldeans. They draw his fire for several reasons. First, he says that they disparage *Life* (*bios*). The word *bios* is used in the *Outlines of Pyrrhonism* to describe the kind of life that the skeptic pursues. According to Sextus, the skeptical criterion is that by which, when they pay attention to what accords with *Life* [*kata ton bion*], they do some things and not others (*PH* I 21).⁴⁴⁴ So if the Chaldeans disparage life as the skeptic would live it, then they represent a pointed attack on skeptical philosophy in general.⁴⁴⁵

443Likewise, Geminus wrote an *Introduction* [*eisagōgē*] to the *Phainomena*. Evans and Berggren (2006, 3, 5) note that we cannot be sure Geminus gave his work this title, but – as they also point out – Hipparchus calls both Aratus' poem and the treatise of Eudoxus *Phainomena* (1.1.3, 1.1.8); so that is certainly the title by which Sextus would have known them.

444Similarly, Sextus makes a close connection between the notion of skepticism as a school and its relationship to *Life*. He says that skepticism is a school insofar as it is a particular kind of ἀγωγή and when he defines ἀγωγή in the context of the 10th Mode, he calls it “a choice of *Life* or of some matter concerning what happens either to one person or many, like concerning Diogenes or the Spartans” (*PH* I 145). Here is the Greek: ἀγωγή μὲν οὖν ἐστὶν αἵρεσις βίου ἢ τινος πράγματος περὶ ἓνα ἢ πολλοὺς γινόμενῃ, οἷον περὶ Διογένην ἢ τοὺς Λάκωνας.

445Bury translates the phrase “οἱ Χαλδαῖοι ... , ποικίλως μὲν ἐπηρεάζοντες τῷ βίῳ” (*M V* 2) saying, “the Chaldeans...[treat] ordinary folk with insolence in various ways.” But the Greek says that they

Second, Sextus says that the Chaldeans “build up against us a great fear of spiritual matters.” The image evoked involves invasion and fortification; the Chaldeans come and build this great fear as an outpost of attack. The word used for “fear of spiritual matters” is *deisidaimonia* which can be translated “superstition” (as indeed, both Bury (1941) and Pérez⁴⁴⁶ do), and which literally means fear of *daimons* or spirits. Whereas in English, the word “superstition” tends to imply unwarranted belief, it sounds as if Sextus is suggesting the Chaldeans encourage not simply unwarranted beliefs, but also unwarranted fear; his word choice indicates that they use that fear in a threatening manner. No doubt the fear is generated as a result of certain beliefs, but Sextus is saying that the Chaldeans deserve a special focus because of their own invasive attacks. In other words, he argues against the astrologers not simply because they are dogmatists, but because they are what I call *invasive* dogmatists (cf. §1.5). An invasive dogmatist uses his dogma to spread fear and distress in his audience. This is why Sextus targets the Chaldeans specifically; troubling beliefs are precisely what the skeptic attempts to overcome in order to reach *ataraxia* (*PH* I 25-27). Unsettling claims are the starting point for the skeptic and the primary thing that drives her philosophical activity (*PH* I 12).

Finally, Sextus says that they permit no activity in accord with the “correct account” (*orthos logos*), an odd turn of phrase for a Pyrrhonian. He rarely uses this phrase: When he does, he either means “correct speech” (*M* VII 44) or he attributes the

disparage the life, not the people. The translator's thought must be that they disparage the people by disparaging their life. But, as I indicate above, this ignores the way that Sextus uses the term βίος elsewhere. Sextus tends to connect *Life* to skepticism and oppose it to philosophical dogmatism. So when Sextus says that the astrologers disparage *Life*, he means that they make their attack on the skeptics, not on other “ordinary folk”.
446Pellegrin (2002, 373).

phrase to someone else (e.g. Empedocles at *M* VII 122; see also, Arcesilaus at *M* VII 158) or the context is clearly dialectical (e.g. *M* IX 153 where he defines *enkrateia* in terms of right reason). Perhaps the only other place where Sextus uses a phrase similar to “correct account” in his own voice is near the beginning of the *Outlines* when Sextus discusses whether skepticism is a school. Here we see the connection between “right reason” and *Life*:

But if you say that a way of life [*agoge*] which follows some account [*logos*] corresponding to the appearances is a school, that account showing how it is possible to seem to live correctly [*zēn orthōs*] (“correctly” is taken not only to refer to virtue, but more generally) and extending to the ability to suspend judgment, then we say we have a school. For we follow an account which corresponds to the appearances and which shows us how to live relative to our local customs and laws and ways of life and personal feelings. (*PH* I 17)⁴⁴⁷

Although Sextus does not use the phrase *orthos logos* in the passage above, it is clear that he thinks the skeptical way of life can give a *logos* that guides us in correct living.⁴⁴⁸

When Sextus says that the Chaldeans do not permit any activity (*energein*) that accords with right reason, he does not specify what sort of activity he means. But, in light of the account given in his *Outlines*, we might speculate that it includes the suspension of judgment that occurs within the context of skeptical investigation. So, it looks like Sextus again says he disputes with the astrologers because they interfere with his way of life. In fact, each of the reasons that Sextus gives for attacking the Chaldeans involves their

447Εἰ δέ τις αἵρεσιν εἶναι φάσκει τὴν λόγῳ τινὶ κατὰ τὸ φαινόμενον ἀκολουθοῦσαν ἀγωγὴν, ἐκείνου τοῦ λόγου ὡς ἔστιν ὀρθῶς δοκεῖν ζῆν ὑποδεικνύοντος (τοῦ ὀρθῶς μὴ μόνον κατ' ἀρετὴν λαμβανομένου ἀλλ' ἀφελέστερον) καὶ ἐπὶ τὸ ἐπέχειν δύνασθαι διατείνοντος, αἵρεσιν φαμεν ἔχειν· ἀκολουθοῦμεν γάρ τινι λόγῳ κατὰ τὸ φαινόμενον ὑποδεικνύντι ἡμῖν τὸ ζῆν πρὸς τὰ πάτρια ἔθνη καὶ τοὺς νόμους καὶ τὰς ἀγωγὰς καὶ τὰ οἰκεῖα πάθη. (*PH* I 17) See also the brief discussion of the meaning of ἀγωγή in n46.

448Admittedly, it is less clear what exactly Sextus thinks “correct living” is, given the qualifications that he makes about it. It must involve the suspension of judgment. To what extent does it include virtue? What exactly does ἀφελέστερον pick out?

interference with skeptical living: They disparage the life that the skeptic tries to live, they use fear as a tactic which clearly interferes with the skeptical goals of *ataraxia* and *metriopatheia*, and they do not permit living in accord with the correct account which includes continual investigation and the suspension of judgment.

Against the Astrologers seems to be one of the most specialized polemics in *M I-VI*, and Sextus' prologue to *M V* explains that focus in two ways. First, the astronomy that is taught in the schools is either based on observation of the phenomena or involves appeal to arithmetic and geometric models. The former type of astronomy is skeptically acceptable, while the latter fundamentally depends on the mathematical models it uses (and therefore does not require an independent refutation). Second, the astrology taught and practiced by the Chaldeans explicitly interferes with the skeptical way of life and therefore deserves its own refutation. In sum, Sextus's purpose for opposing the Chaldeans relates to the fact that their practices in some way interfere with the activities that he views as essential to proper skeptical living. The Chaldeans, insofar as they attack the skeptical way of life, have picked a fight; and Sextus will take this opportunity to stick it to them. What this shows is that *Against the Professors* is not simply an attack on the ancient education system; it extends to cultural groups or trends that Sextus finds troubling. In this sense, the work is a cultural critique.

We'll look more at Sextus' arguments against astrology later in this chapter, but it's worth pointing out a similarity between the Chaldean astrology and the empirical astronomy Sextus appears to accept. Both putative sciences involve making predictions. Sextus explicitly claims that the astronomy limited to the *phainomena* is used to predict

the weather, plagues and other environmental changes. Chaldean astrology also predicts, for example, what sort of person you will be or what sort of death you will experience. So the difference between acceptable astronomy and unacceptable astrology is not the fact that the latter deals in predictions; rather it is in the type of predictions it makes and the way it makes those predictions. The question, then, is not about the distinction between theoretical vs. practical, nor it is between *a priori* vs. empirical science. Both so-called sciences are practically useful and empirically testable (at least in theory).⁴⁴⁹ So why does Sextus find one troubling, but not the other? It surely cannot be that one group was dogmatic while the other was not, as Delattre suggests.⁴⁵⁰

Since the two putative sciences are both useful and testable, if we can spell out how Sextus argues against astrology, that will help us specify what he considers acceptable from the standpoint of empirical science. Before we can do that, however, we should make a slight digression to answer a more general objection to skeptical science. Someone marginally familiar with Pyrrhonian skepticism might wonder how Sextus can coherently talk about any kind of predictive science. Don't predictions require a commitment to certain kinds of necessary connections in the world? If someone should

449I'm speaking exclusively here about so-called "Strong Astrology." "Weak Astrology" is not testable because the predictions are too vague or ambiguous.

450As I've indicated before, it is clear that Eudoxus and Hipparchus held beliefs of the sort that Sextus attacks. Joëlle Delattre (2006) seems to admit that Sextus could be interested in true vs. false science, but she thinks that Sextus' primary focus is in attacking dogmatic forms of teaching of which the astrologers must be a paradigm example (131 n65). However, she fails to explain why Sextus focuses on Chaldean astrology which was probably not part of the typical education; moreover, she fails to explain why Sextus speaks favorably of empirical astronomy which certainly must have been taught in the same dogmatic manner as other subjects in the ancient schools. There must be something that differentiates the subjects which makes the one worth attacking and the other not. Sextus is clear that the Chaldean attack on the skeptical life is a primary reason. He also suggests that astronomy's regard for the appearances and observation is another. Of course, it's also true that he thinks predictive astronomy is useful, like farming and piloting, but that is not the reason he gives, contrary to what Delattre says (132).

put a hole in an animal's heart, the animal will die. If the moon eclipses the sun, the sky will grow darker. These conditionals and others like them seem to presume a commitment to real causal connections in the world. But the skeptic suspends judgment about such connections, so she cannot advocate any predictive science (empirical or otherwise). In order to address this objection, we must consider what Sextus says about how a skeptic can make inferences involving cause and effect.

4.3. The Role of Signs in a Legitimate Skeptical Science

Given the skeptic's practice of suspending judgment, one might think that she should take no interest in any form of predictive science. No matter what the prediction, she will always suspend judgment about the outcome. Consider, in contrast, how prediction operates in modern science: The modern scientist starts with some initial conditions and the laws or rules which allow her to make the prediction from those initial conditions. In Newtonian physics, if you know the mass and velocity of a given (medium-sized) object as well as the forces that act on it (including friction), you should be able to predict its final location (relative to a starting point).⁴⁵¹ The modern view of predictive science is informative because it includes both observed phenomena – the initial conditions – plus causal principles – the laws or rules which govern the physical system. It is the causal principles that a skeptic would consider dubious. The skeptic does not subscribe to any natural laws or theoretical models that could be used to make

⁴⁵¹Things get messier when dealing with quantum systems (since you can only determine an object's momentum or its location with precision, not both), but predictions are still possible with some relative degree of statistical certainty.

predictive claims. So while Sextus is clear that skeptics accept a certain cognitive movement (I will call it an inference)⁴⁵² from present observed condition to future state, it is unclear how such an inference is possible given the skeptic's lack of commitment to any real connection between the two. In this section, I offer an answer to this question by examining Sextus' discussion about "signs" (*sēmeion*).

Sextus differentiates between types of signs and explains that the skeptic accepts one and rejects another (*M* VIII 141-161; *PH* II 97-103). He begins his discussion on signs by distinguishing what is antecedently clear (*prodēlon*) from what is not (*adēlon*).⁴⁵³ One might wonder whether this distinction is meant to be exhaustive; it is difficult to know based solely on the terms used, as *adēlon* may mean "not clear" (the contradictory of *dēlon*) or "obscure" (the contrary of *dēlon*). Moreover, the prefix *pro-* in (*prodēlon*) seems to be an intensifier, which leaves room for something being merely *dēlon* and not extremely or immediately *dēlon*. In the second book of *Against the Logicians* (*M* VIII), Sextus indicates that the *prodēla* "are immediately (*autothen*) observed by perception or by thought" (*M* VIII 141, cf. *PH* II 97). They do not need signs because they are self-evident (*enargē*), (*M* VIII 149, cf. *PH* II 99).⁴⁵⁴ Therefore, signs are only needed to point to what is unclear because what is unclear cannot be grasped by itself. This indicates that Sextus' initial distinction was exhaustive.

⁴⁵²Some scholars would dispute this attribution. For example, Glidden (1983, 217). I will discuss the sense in which skeptics infer things below.

⁴⁵³In the *Outlines*, Sextus indicates that this is a dogmatic distinction, but he does not attribute it to others in *Against the Logicians*.

⁴⁵⁴Sextus goes on to say that he has already raised problems for the self-evident by attacking the notion of the criterion of truth. That the *phainomena* appear he does not dispute, but if the criterion of truth is insecure, "it becomes impossible indeed to affirm regarding the appearances that they are with respect to nature in the way they appear" (*M* VIII 142, cf. *PH* I 19).

The unclear can be divided in three ways according to Sextus: a) what is unclear absolutely (*kathapax*), b) what is unclear by nature (*physei*) and c) what is unclear with respect to a certain time or place (*pros kairon*), (*M* VIII 145; *PH* II 97). His division could be more perspicuous. The relatively unclear is easiest to understand; something is relatively unclear if it can be directly observed, but is not being observed now (Sextus gives the example of Athens for him at this very moment; *M* VIII 145; *PH* II 98). Distinguishing the other two cases is more difficult. Sextus says that the *absolutely* unclear are *essentially* inapprehensible by humans. In other words, they are things that cannot be grasped and thereby could not possibly be known. Sextus gives common examples: whether the stars are even or odd and how much sand is in Libya (*M* VIII 147; *PH* II 97). In contrast, the *naturally* unclear can be known, but is such that it is always hidden and can not be observed or experienced. Sextus gives, as examples, intelligible pores and the unlimited void outside the cosmos (*M* VIII 146; cf. *PH* II 98).⁴⁵⁵ So, the naturally unclear is graspable, but it cannot be observed, while the absolutely unclear is utterly unknowable. Even if Sextus' distinctions seem clear, one might worry about his examples; why think that the parity of the stars is *in principle* unknowable, while the infinity of empty space is knowable but merely unobservable? Perhaps Sextus thinks the void falls into the latter category because philosophers (and physicists) have tried to prove the existence of the void while no one regards the parity of the stars as determinable. Given his examples, Sextus seems to be expounding dogmatic distinctions here. We should not put too much stock in them (as if they represent Sextus' own view),

⁴⁵⁵In the *Outlines*, Sextus says that intelligible pores never appear “of themselves”, but they are thought to be grasped from something else like sweat (*PH* II 98).

and he should suspend judgment on whether there is any *real* distinction between the absolutely non-evident and the non-evident by nature.

Sextus says there cannot be any signs for what is in principle unknowable, and since there can be no sign for what is already clear (*prodēlon*) because what is self-evident or apparent needs nothing to indicate its truth (*M* VIII 149; *PH* II 99), there are only two types of signs corresponding to the two types of knowable obscurities: Signs which signify the relatively unclear and signs which signify the naturally unclear (see Table 1 below). Sextus calls these commemorative (*hupomnēstikon*) and indicative (*endeiktikon*) signs respectively (*M* VIII 151; *PH* II 99).

Type of Sign Relation	Sign	Signified	Relation Known By
commemorative (<i>hupomnēstikon</i>)	observed (e.g. smoke)	unobserved, but observable (e.g. fire)	previous experience, observation, memory
indicative (<i>endeiktikon</i>)	observed (e.g. animal movement)	unobservable (e.g. soul)	reason, <i>logos</i>

Table 1. Types of Sign Relations

Both sign types start from something that is observed (call this 'A') and infer the existence of something unobserved (call this 'B'). The difference is that in the case of a commemorative sign, it is possible to observe both A and B together in some way, whereas, in the case of an indicative sign, B is *in principle* unobservable.⁴⁵⁶ Sextus uses the example of smoke and fire to illustrate the commemorative sign (*M* VIII 152; *PH* II

⁴⁵⁶Note that the phrase “observe both A and B together” does not necessarily mean that one can observe A and B at the same time as I explain below.

100); when we see smoke, we recall our experience of observing smoke and fire together and this leads us to infer (or at least expect) the existence of an unobserved fire.⁴⁵⁷ For an indicative sign, Sextus tells us that the independent movement of a body indicates – to the dogmatist, at any rate – the existence of an unobservable soul (*M* VIII 155; *PH* II 101). We can never directly observe a soul (*psuchē*) – the life principle of an animal – but we can infer its existence from the movement of the animal's body which we do observe. In the case of commemorative signs, we grasp the connection between the sign and the signified by observing them together repeatedly in the past and then remembering that connection later.⁴⁵⁸ In the case of indicative signs, the sign and the signified cannot be observed together; the link between them can only be determined through reason.

We can infer some interesting consequences from this semiotic distinction. Given that the signified, in the case of the indicative sign, is in principle unobservable, if such a sign exists, it must guarantee (together with reason) the signified in question, excluding all possible alternatives. There is, after all, no independent way to verify the correct implication of the sign. Using the example above, it is not enough to say that the movement of the butterfly in the sun outside my window leads me to believe that the animal is alive and has a *psuchē*. If the sign gives knowledge or, at least, allows me to grasp the reality of the soul, then the butterfly's flight must also (if it is truly an indicative sign) exclude the possibility that the butterfly is an ingeniously disguised drone sent by a local villain in order to case my neighborhood. If an indicative sign implies the signified,

457In *Against the Logicians*, he also uses the examples of a scar (A) and a wound (B) as well as cardio-trauma (A) and death (B) (*M* VIII 153). I'll say more about these examples later.

458Chiesa (1990, 159) points out that Sextus never explicitly mentions the need for repeated observation when he describes commemorative signs, but as we'll see, Sextus makes this quite clear in his critique of astrology at *M* V 103-105.

then it must also exclude potentially competing incompatible explanations. On the other hand, the commemorative sign-signified relationship is known only through observation and memory. This means that there is nothing that prevents the same sign from indicating many different things or different signs from indicating the same thing.⁴⁵⁹ Different observers may notice different correlations. This in turn means that there is nothing to guarantee that signs fall neatly into natural disciplinary boundaries. And we see this when we look at the sciences of other cultures and ages. I've already commented on the fact that the ancient Greeks ran together the domains of astronomy and meteorology (i.e. atmospheric conditions) which we typically distinguish in our modern science. In fact, we might say generally that, even if we knew all of the fundamental physical facts in the universe, we could not predict ahead of time the content and disciplinary boundaries of sciences developed on the basis of commemorative signs in a given culture (at least, not without also knowing which observations individual investigators would note and how they would correlate them within their own experience).⁴⁶⁰

Sextus says that he does not wish to attack commemorative signs, and even stronger, that he accepts them as a necessary and important for living. He states his

459The idea that the same sign could indicate different things causes problems for the indicative sign. We saw this at the end of the previous chapter when I briefly explored the phenomenon of theoretical underdetermination. As we'll see, Sextus himself seems aware of this issue when he discusses explanation in astrology, and it is something the skeptics should have expected in their own disciplines, given the character of commemorative signs. That is not to say that the skeptic herself theorizes. Rather, she ought to realize that the same sign may point to more than one observable thing. As I noted earlier, this is a problem – not for the skeptic – but for the dogmatic scientist, if he supposes that the evidence validates a single theory (another way of expressing the problem with indicative signs that I discuss above).

460Consider, for example, the groupings of stars that we call constellations. Why are they grouped in the way that they are? This is largely a historical accident, the result of decisions made by star watchers long ago. Similarly, commemorative signs and that to which they point will depend on the investigators who organize them.

reason most succinctly in the *Outlines*:

So while there are two different types of signs, as we said, we do not argue against all signs, but only against the indicative since it seems to have been invented by the dogmatists. For the commemorative sign has been trusted by *Life*, since someone seeing smoke infers a fire and after observing a scar, one says that a wound occurred. Thus, not only do we not fight with *Life* but we even contend for it when we assent in a non-believing way [*adoxastōs*] to that which has been trusted by it while we oppose those things that are privately invented by the dogmatists. (*PH II 102*)⁴⁶¹

It is noteworthy that Sextus personifies *bios* in this passage (recall, this is one reason I capitalize *Life*; cf. §3.2.1 n237). He says that the skeptics do not argue against commemorative signs because they are trusted or found to be convincing by *bios* which he explains with his stock examples of commemorative signs – smoke of a fire; scar of a wound. Perhaps Sextus thinks commemorative signs are trustworthy because they can be confirmed. That is, when you take an unseen fire to be signified upon seeing smoke, you can investigate and find that indeed something is burning. Consider the contrast with the indicative signs: Even if one infers the existence of the soul from the movement of the body, there is no way to observe the soul directly in order to confirm the reliability of the inference. In other words, Sextus trusts commemorative signs in life because the individual inferences can be checked through direct observation. Of course, one cannot directly observe the wound that caused the scar, but presumably one can ask the person who has the scar and determine the cause of the scar that way.⁴⁶²

461διττῆς οὖν οὔσης τῶν σημείων διαφορᾶς, ὡς ἔφαμεν, οὐ πρὸς πᾶν σημεῖον ἀντιλέγομεν, ἀλλὰ πρὸς μόνον τὸ ἐνδεικτικὸν ὡς ὑπὸ τῶν δογματικῶν πεπλάσθαι δοκοῦν. τὸ γὰρ ὑπομνηστικὸν πεπίστευται ὑπὸ τοῦ βίου, ἐπεὶ καπνὸν ἰδὼν τις σημειοῦται πῦρ καὶ οὐλήν θεασάμενος τραῦμα γεγενῆσθαι λέγει. ὅθεν οὐ μόνον οὐ μαχόμεθα τῷ βίῳ ἀλλὰ καὶ συναγωνιζόμεθα, τῷ μὲν ὑπ' αὐτοῦ πεπιστευμένῳ ἀδοξάστως συγκατατιθέμενοι, τοῖς δ' ὑπὸ τῶν δογματικῶν ἰδίως ἀναπλαττομένοις ἀνθιστάμενοι. (*PH II 102*)

462Again, making the contrast with the modern case, scientists today will generally try to find ways to make their “signs” trustworthy by controlling some particular variable(s) and running experiments that are meant to eliminate possible theoretical alternatives. I take it that the practice of experimentation on

Moreover, the signs that the skeptic accepts are used by everyone. In contrast, Sextus says that the indicative signs have been fabricated by the dogmatists in a peculiar way [*idiōs*]. Different dogmatic schools recognize different types of indicative signs, as Sextus will go on to explain. Commemorative signs are public and common. Sextus claims that the skeptic assents *adoxastōs* – without belief – to that which *bios* trusts. This statement brings to mind his description of skeptical assent at the beginning of the *Outlines*. There, he says that skeptics assent to the *pathē* forced upon them by the *phainomena* (*PH* I 13). He seems to conceive of commemorative reasoning as an involuntary movement of the mind from the observed sign to the unobserved signified. That is, one cannot help but think, fire!, when one sees or smells smoke. But, Sextus does not offer any theory about the relation between the sign and the signified. All he admits is that the one follows the other, like a shadow follows a body (*M* VIII 173, cf. *PH* I 29).

In *Against the Logicians*, Sextus says that the commemorative sign “is commonly trusted by everyone to be useful on the basis of *Life*” (*M* VIII 156).⁴⁶³ He goes on to claim that some people falsely accuse the skeptics of saying that no signs exist, but for all that, they admit they recognize [*gnōnai*] things, being able to grasp a fire from smoke or a wound from a scar (157). In this context, Sextus emphasizes the usefulness of commemorative signs – “*Life* uses them” (*M* VIII 158) – again personifying *bios*.⁴⁶⁴

Sextus takes a moment before he goes on to attack indicative signs to remind us that the

its own would not bother the skeptic. Rather, it is the construal of the experiment that matters for our purposes. Insofar as modern scientists take their work to reveal invisible realities of the micro-physical world, the skeptic will not be impressed. But if the scientist simply spells out that experimental results in terms that can be observed, the skeptic will not have any problem with experimental practice as such. 463 τοῦτο [i.e. τὸ ὑπομνηστικὸν] γὰρ παρὰ πᾶσι κοινῶς τοῖς ἐκ τοῦ βίου πεπίστευται χρησιμεύειν (*M* VIII 156).

464I discuss Sextus' perspective on utility in chapter 5 (§5.2).

skeptical approach does not commit him to the claim that there are no indicative signs. Rather, he raises problems for *endeixeis* in order to suspend judgment about them (*M* VIII 159-161).

In the *Outlines*, Sextus attributes the distinction between the clear and the unclear to the dogmatists (*PH* II 97). Much of the scholarship dealing with these passages has focused on identifying which dogmatists Sextus has in mind and whether he gets their account of signs right.⁴⁶⁵ What I've tried to emphasize in this section is that Sextus accepts the distinction and makes it his own, clearly tying his acceptance of commemorative signs to his account of the skeptical life in the first section of the *Outlines*.⁴⁶⁶ Sextus views the model of the commemorative sign as an appropriate account of drawing a connection between observed and unobserved events or states of affairs which is necessary for the life guided by the skeptical criterion of action. And if this is so, then the commemorative sign may be used in the development and operation of a proper skeptical science, or *technē* (cf. *PH* I 21-24).⁴⁶⁷

Sextus offers a number of examples of commemorative signs, and these allow us

⁴⁶⁵See, for example, Brunschwig (1980), Barnes (1980) and Burnyeat (1982). Sedley (1982) focuses primarily on the Epicurean Philodemus' *On Signs* although he also discusses the possible sources of Sextus' semiotic distinctions. Chiesa (1990, 153) claims that Sextus intends for his attack on signs to apply to dogmatists in general, rather than one particular group, since he uses both Stoic and Epicurean terminology. Allen (2001, 106–134) does a good job emphasizing the differences and resulting tension between the accounts in *PH* and *M*. He argues that these tensions come from Sextus' drawing on and combining the disparate source material from Medical Empiricism and the earlier Pyrrhonian skepticism of Aenesidemus.

⁴⁶⁶Recall that this is one of the measures of a skeptical view, as I explained in chapter 2.

⁴⁶⁷When Barnes (1982) discusses Sextus' account of commemorative signs, he is primarily concerned with the question of whether Sextus commits the skeptic to having beliefs or not. Barnes concludes that one can give a coherent reading of Sextus' text on the rustic interpretation, but that such an interpretation is strained. His reason is that, if the skeptic truly does not have any beliefs, then Sextus' account of sign inference is "misleading and perhaps disingenuous." Barnes ties this accusation to Sextus' account of the βιωτική τήρησις (*PH* I 23), which relates the problem of disingenuousness to the skeptical criterion in general. In other words, Barnes expresses a version of the Teaching Expertise problem that I presented in §1.3.

to differentiate them further. An interesting feature of his examples is that, although there is no reason a commemorative sign must involve any causal connection, each example includes what we would call an inference to a cause from an effect or to an effect from a cause. Of course, Sextus does not (and should not) claim that there is a necessary causal connection in these cases.⁴⁶⁸ Two of the examples that Sextus offers involve inferring a cause from an effect (fire from smoke, a wound from a scar). Only one example involves a prediction of a future event, that is inferring an effect from a cause (death from a wound to the heart). Because an effect can never precede its cause, there are four possible temporal relationships between sign and signified in a causal commemorative sign (Sextus only describes three of them).⁴⁶⁹ They are summarized in the table below.

Type of commemorative sign	Character of sign	Character of signified	Temporal relation of the signified to its sign
Historical (i.e. of a past cause)	observed effect (e.g. scar)	unobserved cause (e.g. wound)	past
Synchronic (i.e. of a present cause)	observed effect (e.g. smoke)	unobserved cause (e.g. fire)	present
Synchronic (i.e. of a present effect)	observed cause (e.g. fire)	unobserved effect (e.g. smoke)	present
Predictive (i.e. of a future effect)	observed cause (e.g. wound to the heart)	unobserved effect (e.g. impending death)	future (i.e. prediction)

Table 2. Commemorative Sign Types

⁴⁶⁸In many cases, a commemorative sign will simply involve a correlation, as we have seen in certain examples tied to ancient astronomy. One interesting question that Sextus does not address is how the sign is or might be determined since positive correlation is not sufficient to determine which sign is linked to which signified. Sextus never shows awareness of this issue, and although he discusses the importance of repeatedly observing correlation in *Against the Astrologers*, he ignores the importance of negative correlation in identifying what exactly constitutes the sign. For example, everyone who has a scar was born, so Sextus needs to explain why a scar is a sign of a previous wound, but not a sign of being born. He does not show awareness of this issue in his discussion of the sign-signified relationship.

⁴⁶⁹Sextus never describes the Synchronic commemorative sign of a present effect (i.e. the third row in Table 2). I have included it merely for completeness, and I discuss it below.

Take the simplest case of smoke as a sign for the existence of fire: The sign is observed, while the signified is unobserved, but observable. The connection between the sign and the signified is initially established through repeated observation of the two of them together, in particular, by seeing fires produce smoke. Thus, when the fire is unobserved, Sextus says that he observes the smoke and recalls the fire. The smoke and the fire will always be present together although one might be able to see the smoke without seeing the fire (because it is far away or obscured in some way). Although Sextus does not say so explicitly, the inference could also go from the cause to the effect; that is, during the night one might see the fire and think of its smoke even if one cannot see or smell it (because of the dark and the distance). And in fact, because Sextus should have no commitment to one being the cause and the other being the effect, there is no difference from the skeptic's standpoint which way the inference runs (I've indicated this by calling both types *synchronic* in the table).⁴⁷⁰ This explains why Sextus only considers three of the four types; my typology presupposes a dogmatic conception of causation whereas the skeptical view does not.

The case of the scar and wound is slightly different. One still moves from the observed effect of a scar to the unobserved cause of a wound, but in this example, the cause is observable in one sense, but not in another. If the doctor saw the wound in the

⁴⁷⁰Chiesa (1990, 160) makes the point that although the sign / signified relation may look asymmetric, since Sextus does not discuss the asymmetry, he may think that the signified is always also potentially a sign of the sign. That is, what distinguishes the sign from the signified is not anything essential about them. It is simply that one is presently observed and the other is not. That status may change over time, so that the unobserved – when it becomes observed – could stand as a sign for the previously observed (but now unobserved).

past, he would have observed it, but the cause is no longer observable (being in the past) although one might learn about it through the testimony of the one who was injured or other witnesses. I call this a *historical* commemorative sign because the sign signifies a past event or situation. This still counts as a commemorative sign for Sextus, even though the cause is presently unobservable, because it was observable at some time. That is, it is not unobservable *in principle*. The observability of the signified could be expressed counter-factually: If I were present at the time of the injury, then I would see the wound.⁴⁷¹ Moreover, the case of the scar makes it clear that the sign and the signified do not need to be observed together at the same time since the scar only appears as the wound heals. The sign and the signified must be connected in an obvious way, but they do not need to occur at the same time.⁴⁷²

Finally, the case of a wound to the heart is the most useful example for our purposes. The sign is a wound to the heart which signifies impending death (*M* VIII 153). It might seem a little odd that Sextus considers this a *commemorative* sign because the death is not yet actual, so it cannot be observed. I call this a *predictive* commemorative sign because it is used to predict the future and only in the future will the death be observed. In this case, the sign is the cause, and the future effect is the signified. This predictive sign shows us how Sextus conceives of the possibility of a skeptical predictive science. If commemorative signs can be used for a prognosis, then the doctor is able to predict a future outcome as long as that outcome is observable when it happens. We can

⁴⁷¹The historical commemorative sign shows that Sextus is prepared to allow the skeptic certain forms of historical beliefs.

⁴⁷²Chiesa (1990, 157, 159) makes this point; still, we might say that wound and scar are “observed together” in the sense that one can observe the progressive healing of the wound forming the scar over time in one location on the body.

express the observability of the signified in terms of a future contingency; if you stick around after someone is stabbed in the heart, then you will see him die.

It is no accident that several examples Sextus uses of signs involve medical situations. His name identifies him as a doctor in the Empiricist school, a common allegiance among Pyrrhonians if Diogenes Laertius is to be believed (DL IX 115-116). Sextus himself seems to have written a now lost book on medical empiricism (*M I* 61), and we know from Galen's *Outlines of Empiricism* that “the empiricist's attitude towards medical matters is like the sceptic's attitude towards the whole of life” (82).⁴⁷³ Significant scholarly work has been done to understand the relationship between skepticism and medicine, and that work goes some way in explaining how a skeptical scientific enterprise is possible, and in what ways it differs from its dogmatic counterparts.⁴⁷⁴

Galen makes it clear that the Empiricists rejected indicative signs and accepted commemorative signs.⁴⁷⁵ He even appeals to the case of a wound to the heart causing death in his *Outline of Empiricism* when he describes the types of syndromes that empiricists admit for making diagnoses and prognoses and for suggesting treatment. He says,

But all these syndromes we know on the basis of observation; we commend them to our memory and then make use of them on the basis of our recollection. For we make use of our experience, observing things and trying to remember what we

⁴⁷³I use the Walzer and Frede translation of Galen's *Outlines* found in Frede (1985).

⁴⁷⁴See Allen (2010); Hankinson (1995, 225–236); Edelstein (1967). For more general studies regarding medical empiricism, see Matthen (1988); Frede (1988); Frede (1990); and the introduction to Frede (1985, ix–xxxiv).

⁴⁷⁵As Galen puts it, the Empiricist doctors only accepted a form of reasoning based on evident features which they called “epilogism” (*epilogismos*) and they denied that there is a sign of anything thing that is unclear (*adēlon*) by nature. In this way, they rejected indicative signs (*endeixis*), and they argued against the possibility of dogmatic reasoning, i.e. “analogism” (*analogismos*) which they said concerns things that are *adēlon* in every respect (*Sect. Int.* K I 76– 78; cf. *Subf. Emp.* 62-63).

have seen to happen in conjunction with what, and what we have seen following what, and what we have seen preceding what, and whether this is always so, for the most part, half of the time, or rarely. Always, as death in the case of a heart wound... (*Outline of Empiricism* [=Subf. Emp.] 58)

Galen suggests that the formation of the semiotic relation on the part of the empiricist involves the observation of repeated particular correlations. In this case, death always follows a wound to the heart, so the doctor formulates this as a prognostic principle that when someone suffers a stab to the heart, he will die.

In practice, things are more complicated. A dead body with a hole in the heart does not necessarily indicate that the death was caused by the hole. Someone might cut a dead man's heart after he died by head trauma. Even if a medical researcher can rule out some other possible causes of death, before the heart-wound principle is grasped, he cannot be sure it is the wound to the *heart* that causes the death. Trauma to the heart, as a rule, involves other sorts of injury. No doubt a number of cases must be examined, and the key observation is that no one with a perforated heart survives. It is this – the *memory* of *repeated* cases where death follows trauma to the heart – that causes the empirical doctor to formulate his prognostic principle.⁴⁷⁶ Each of the repeated cases, must also differ from one another, if in no other way than time and place and presumably victim. So the development of the commemorative sign must already involve determining the relevant similarities in order to spell out the character of the sign-signified relation. But importantly, the Empiricists seemed to locate this determination in the faculty of memory.

In contrast to the empirical or skeptical picture, the dogmatic ps.-Galenic author

⁴⁷⁶As a matter of fact, Galen emphasizes that the Empiricists rely both on the memory of their own experience, as well as “histories”, that is reported case studies of other doctors. (*Sect. Int.* K I 66-69)

of *de Optima Secta* uses heart injury as an example of how experience and reason work together to determine medical principles, or theorems, as he calls them.⁴⁷⁷ It is instructive to contrast his account with Sextus' to see why one investigator might emphasize the role of reason in the formulation of this prognostic sign, while the other thinks it can be derived solely from experience and memory. Our rationalist author says:

For theorems are established in this sort of way: either from the *phainomena* or from things otherwise apprehended or from what is already demonstrated or from what is manifest. The ones that are established from the *phainomena* are like this: After someone runs across many deaths by heart injury, he inquires into the cause of death. Thus, as he thinks about it [*logizomenos*], he finds that they died, not because they lacked a power nor because of an unavailability of a medical remedy, but because the function of the part [of the body] is vital. So after he recognizes that without the activity of this part and its needed benefit to the body, the living being cannot be saved; and once he establishes his discoveries based on the *phainomena* by reasoning [*tō logismōi*], he has produced this theorem: if someone is injured in the heart, he will die. Thus, that which is discovered by reasoning [*tō logismōi*] in conformity with the *phainomena* and is expressed generically is a theorem. (*de Optima Secta* K I 112-113)⁴⁷⁸

The author of the passage above agrees with Sextus that a medical principle regarding heart injury causing death is, in *some* sense, based on the *phainomena*. But in contrast to Sextus, this author emphasizes the role of reason in determining this principle.

Commemorative signs, according to Sextus, are determined by observing the sign and the signified together on a number of occasions. The author of *de Opt. Secta* agrees that

⁴⁷⁷James Allen (2001, 134–139) has an excellent discussion of the argument against Empiricism in *de Optima Secta*.

⁴⁷⁸ Συνίσταται γὰρ τὰ θεωρήματα ἢτοι ἐπὶ τοῖς φαινομένοις, ἢ ἐπὶ τοῖς ἐξ ἐτέρων καταλαμβανομένοις, ἢ ἐπὶ τοῖς προαποδεδειγμένοις, ἢ ἐπὶ τοῖς ἐναργέσιν, κατὰ τοιοῦτόν τινα τρόπον. ἐπὶ μὲν τοῖς φαινομένοις οὕτως. ἐντυχὼν τις πλείοσι καρδιοτρώτοις ἀποθνήσκουσιν, ἐζήτησε τοῦ θανάτου τὴν αἰτίαν. λογιζόμενος οὖν εὗρισκε μήτε δι' ἐνδειαν δυνάμεως, μήτε δι' ἀπορίαν ὕλης βοηθημάτων ἀποθνήσκοντας, ἀλλὰ διὰ τὴν ἐπίκαιρον χρείαν τοῦ μέρους. ἐπιγνοὺς οὖν, ὅτι ἄνευ τῆς τοῦ μέρους τούτου ἐνεργείας καὶ τῆς περιγινόμενης ἀπ' αὐτοῦ [113] τῷ σώματι χρείας σώζεσθαι τὸ ζῶον οὐ δύναται, συνθεῖς τε τῷ λογισμῷ τὰ ἐπὶ τῶν φαινομένων εὐρημένα, πεποίηκε τοῦτο τὸ θεωρήμα· εἴ τις ἐστὶ καρδιοτρώτος, ἐκεῖνος ἀποθανεῖται. τὸ οὖν κατ' ἀκολουθίαν τῶν φαινομένων τῷ λογισμῷ εὐρεθὲν καὶ καθολικῶς ἐξενεχθὲν ἐστὶ θεωρήμα. (*de Optima Secta* K I 112-113).

observing many fatal heart injuries is the starting point for discovering the correlation, but he disagrees about the role of that reason plays in determining the link between the sign and signified. He emphasizes that further inquiry is required, which involves considering the possible causes of death. Were the cases in question lacking some necessary power? Was there some problem with the medicine? It is only by reasoning, and in particular by eliminating competing possible explanations, that the doctor recognizes that this particular organ is necessary for survival. Reason is required to determine the cause of death because while both the injury and the death are observable, the causal connection between them is not observable. Reason is required to grasp the general causal principle that conforms with the observations, and reason is required to move from the particular cases to the generic expression. Finally, the theorem is expressed as a predictive conditional: If someone suffers a heart injury, he *will* die. The theorem does not refer to the previous cases except perhaps retrospectively; it is meant to guide the doctor's future prognoses.

Ultimately, Galen's own criticism of Empiricism mirrors this description of the development of prognostic principles. He affirms the need for reason to organize experience into expressions of knowledge, denying that we can grasp the relevant principles simply through memory of repeated observation.⁴⁷⁹ Moreover, Galen argues that since a single observation does not constitute an expertise, neither will many observations. But this means that the empirical “expert” is no different than the ordinary person.⁴⁸⁰ If the Empiricist makes a claim to expertise, he must clarify what Empiricism

⁴⁷⁹*On Medical Experience* 94-98, in Frede (1985, 57–60).

⁴⁸⁰*ibid.* cf. *de Opt. Sect.* K I 123.

adds to observation which differentiates it from what is available to all.⁴⁸¹ Galen suggests that what is needed is reasoning about which observations are relevant to the case in question.

While these anti-Empirical arguments may seem to convincing, James Allen rightly points out that the Dogmatic attack is not without its own difficulties.⁴⁸² In order for the rationalist critique against Empiricism to work, something in the *phainomena* must enable reason to grasp the hidden causal connection between the sign and signified. Presumably the connection can only be grasped by understanding the nature(s) in question, whether through observation or reason, it matters not; but the skeptic will then wonder what reveals nature to the expert. If it is revealed directly through the *phainomena*, then dogmatism will fall into the same problem that empiricism has regarding its status as *technē*; nothing will differentiate it from common experience. If, on the other hand, nature is known through dogmatic theorems, then it looks like the dogmatist has a potential circularity problem, for the theorems themselves are developed precisely by observing the *phainomena* (cf. *M* VIII 206).

Up to this point, I've taken Sextus' claim that he accepts commemorative signs at face value, and I've tried to explain what he could mean by it given his skeptical way of life. Such signs can only be skeptically legitimate insofar as they do not commit him to any dogmatic beliefs, yet still allow him to live and function in the world. But, Sextus'

⁴⁸¹Richard Bett has suggested in correspondence that nothing differentiates it. The Empiricists use observations that are available to all; they simply “take more trouble in their observations” and thereby “see things that others don't.” But I take it that Galen's point is that “trouble” in observation counts as a differentiating feature, and so the Empiricists must spell out what about this trouble makes them able to see things that others miss.

⁴⁸²Allen (2001, 137–138). cf. *M* VIII 206.

account and acceptance of commemorative signs is not without problems. For one thing, it occurs within a dialectical context in which Sextus has conceded the existence of the clear and evident (*M* VIII 140, cf. *PH* II 95-96). As I indicated above, signs – whether commemorative or indicative – are always observed according to Sextus. But, as a skeptic, he does not affirm that he observes the clear, evident truth. Allen also addresses this problem; he rightly points out that, although Sextus presents the account of commemorative signs – especially in the *Outlines* – as dogmatic doctrine (*PH* II 97), he can easily modify the doctrine to align it with the skeptical life by simply asserting that commemorative signs are part of the appearances, his *phainomena*; therefore, while he does not commit himself to the truth or reality of any of the signs, he can follow them insofar as they constitute part of the criterion of action.⁴⁸³

Still one might worry that, even if Sextus only infers the signified from the *phainomena*, he must still be committed to the connection between the sign and the signified. David Glidden has argued that, if we take Sextus at his word, he must have certain “second-order knowledge” about the regularities which constitute the signifying relation.⁴⁸⁴ That is, Sextus must be committed to the view that the world operates in certain predicable ways; and this commitment obviously would conflict with his skeptical pretensions.⁴⁸⁵ But there seems to be no reason to deny – given what I’ve already said

⁴⁸³Allen (2001, 141).

⁴⁸⁴Glidden (1983, 215) adds that Sextus cannot have such knowledge since it “runs against the Pyrrhonist objection that learning is impossible”. But, as I indicated in an earlier chapter, the Pyrrhonist arguments against learning are meant to be balanced with the apparent fact that we learn things all the time which should lead the skeptic to equipollence and *epochē*. Sextus, as a good skeptic, will suspend judgment about whether he has any such second-order knowledge as well as whether he could learn it. None of this creates any conflict for the skeptical way of life.

⁴⁸⁵Glidden (1983) also argues that Sextus does not *actually* accept commemorative signs and that his apparent acceptance is simply “another dialectical stratagem to defeat the dogmatists and a rhetorical device to win us over with homespun examples designed to clothe a borrowed bit of philosophy” (213).

about skeptical appearances – that Sextus could appeal to what we might call “second-order appearances.” That is, he might claim that it appears to him that the world is generally predictable since many of his expectations are fulfilled, but he suspends judgment about whether it is predictable in reality.⁴⁸⁶

One final worry involves the relationship between Sextus' skepticism and the medical Empiricist commitment to commemorative signs. While it is consistent with Sextus' description of the skeptical philosophy that he accept commemorative signs as useful for life, it would not be consistent for him to take the distinction between commemorative and indicative signs as tenet of “skeptical doctrine.” Such a position would be dogmatic; and this is where Sextus' sign philosophy must part ways with the Empiricists who seem to have been dogmatic in their opposition to the rationalists. Allen argues that this is the reason we see Sextus differentiating skepticism and Empiricism in the *Outlines* (*PH* I 236). Allen goes on to point out that, when Sextus suggests that the skeptical way of life may be better suited to the Methodist school of medicine, he compares the Methodists' use of *endeixis* (indication), which they accept “without belief” (*adoxastōs*), to the skeptical criterion (*PH* I 240).⁴⁸⁷ In other words, as a skeptic, Sextus is not committed to any theory of indicative vs. commemorative signs himself, even though

I take it that, if there is no real incoherence in what Sextus says, then the interpretation which takes him at his word is preferable to Glidden's which accuses Sextus of philosophical trickery. Chiesa (1990, 162) actually suggests that Glidden's interpretation renders Sextus' text incoherent since he explicitly accepts commemorative signs.

⁴⁸⁶One might object that this sounds like an attempt to justify the use of commemorative signs. I do not mean to imply that Sextus should worry about whether his acceptance of these signs is rational or requires any such backing. Still, one might ask Sextus why he follows certain signs, and I argue above that it is consistent with his skepticism to indicate that there seems to be a regularity in the way the world works and that he just follows the way things seem to him.

⁴⁸⁷Allen (2001, 141–142). For other discussions about the Methodist medical school, see Edelstein (1987) and Frede (1987).

– and at the same time – he is aware that he relies on phenomenal signs to make predictions and to live his life.

I will end this section as I started it, and consider the sense in which a skeptical science, one based on commemorative signs, is empirical.⁴⁸⁸ Both commemorative signs and that which they signify must be – at least in principle – observable. It is worth emphasizing this fact because it differentiates Sextus' vision of an empirical science from our own. Take any modern theory of atomic and sub-atomic particles. We often think of sub-atomic physicists as “observing” the particles that scatter as a result of a collision in the Large Hadron Collider, for example; but of course, what they actually observe is an instrumental interpretation of the effects that those sub-atomic particles leave on the recording devices. The particles themselves are unobservable, at least by our sensory organs. Our physics is dogmatic science at its worst as far as Sextus is concerned.⁴⁸⁹ Since our modern sciences deal in unobservable entities, they would not count as legitimate skeptical sciences as far as Sextus is concerned. What does it mean to be observable? Seeing the effects of pores through clever instruments does not count as observing pores for Sextus; he is talking about looking at fire and seeing the smoke

⁴⁸⁸One might worry that we ought not speak of science here because skepticism is not concerned with providing explanations. If one thinks that science must include explanations, then it is not appropriate to speak of a skeptical science. But, there have been modern thinkers who claim that explanation is not an essential feature of science. Duhem (1974, 19), for example, denies that physical theory is or provides explanation (for his view of what explanation is, see chapter 1, pp. 7-18). Similarly, I think that we should understand Sextus as implicitly holding a kind of anti-realist view of science. It is not far-fetched, given the fact that we consider disciplines like astronomy and medicine to be sciences (admittedly in the latter case, an applied science), to talk about the skeptical understanding of these disciplines as a type of science.

⁴⁸⁹Modern astronomy has similar issues. Black holes and dark matter are unobservable; we can only see their effects. We cannot observe them directly. Similarly, we cannot directly observe most of the electromagnetic (EM) radiation that comes from the stars, which is the bread and butter of modern astronomy.

billow from it or watching someone take a lance through the heart and bleed out on the battle field. Insofar as modern science trades in theoretical, unobservable entities like quarks and bosons, it does not appeal to commemorative signs. In other words, it is not empirical in the sense that Sextus' science is.⁴⁹⁰

I have argued in this section that Sextus accepts commemorative signs as a legitimate tool for skeptics to live and function in the world. Such signs involve a cognitive move from something observed to something unobserved, but observable; moreover, the sign-signified relationship itself must be observable in some sense. It seems clear that these signs must constitute the basis for any form of skeptical science. A skeptical expertise, such as medicine, requires a method for making reliable predictions; and Sextus admits that the skeptic accepts and uses commemorative signs, while at the same time suspending judgment about indicative signs. Sextus' view of predictive signs will help us interpret his criticism of astrology as well as his acceptance of a certain form of predictive astronomy. In the next section, I argue that Sextus makes a two pronged critique of astrology – he denies the observability of the so-called “sign” and he locates a gap in the relationship between the sign and the signified. Thus, Sextus' criticism of

⁴⁹⁰In *The Scientific Image*, Van Fraassen (1980) offers a discussion of what is “observable” that I think Sextus would largely accept (13-19). He suggests that what is observable should be spelled out counterfactually in terms of the circumstances in which we could observe it. That is, if there are circumstances in which we could observe something, it is observable. Thus, observability is dependent on the epistemic community. Van Fraassen admits that determining what is 'observable' can be problematic because it is a vague predicate, but he answers that this is not a problem particular to observability (16). Still, it is not entirely clear that there are not lurking problems here. Sextus makes it clear that he accepts a broad conception of what counts as *phainomena*. But this raises the question whether you can “observe”, for example, the “appropriateness” of acting a certain way in a certain situation if it “seems” to you that you should act that way. If you can, then it looks like one can observe complex events which may even be temporally disconnected. This could raise a problem for his critique of astrological signs which I will highlight below since his critique of the “horoscope” as a sign is based on its being a complex event that cannot be observed. See Van Fraassen (2001) for his more recent understanding of what counts as observable.

astrology focuses on its inadequacy as an empirical science.

4.4. *The Problem with Astrology for Sextus*

The problem with astrology for Sextus is that so-called astrological signs are not really signs at all. It is worth thinking about his critique carefully because, upon reflection, it is not obvious why Sextus should reject astrology when he accepts a certain type of astronomy and other predictive sciences, like medicine. After all, a predictive science acceptable to the Pyrrhonian skeptic only makes use of commemorative signs, so it can only predict what is in principle observable. But, astrology generally involves the prediction of observables. Granted, this depends whether we're discussing Strong or Weak Astrology; as I mentioned before, Sextus indicates that the Chaldeans engaged in both vague, amorphous predictions, as well as more concrete, specific ones. Insofar as vague predictions are not falsifiable, they will not be a candidate for any kind of science. But some astrological predictions are specific enough to observe and falsify. In fact, both what Sextus views as acceptable empirical astronomy and the unacceptable astrology predict future occurrences on the basis of signs in the sky, and both use commemorative signs because the prediction (i.e. the signified) can ultimately be observed and confirmed: either the storm happens or it does not; either the man dies at sea or he doesn't. What distinguishes these two so-called sciences is neither their use of signs for predictive purposes nor the type of sign that they use.

Sextus uses two strategies to throw doubt on the Chaldean astrology: First, he raises questions about the observability of the sign itself; second, he attacks the

connection between the sign and the signified. If there is no connection between the sign and signified, then there can be no inference from the former to the latter. Now, the nature of the connection required depends on the type of sign in question. The connection between the sign and signified for a commemorative sign depends on observation and memory; for an indicative sign, it depends on reason (*logos*) and explanation. But, in either case, if a gap exists between the so-called sign and the signified, then it is not a sign. If there is no correlation of events, it cannot be a commemorative sign. If there is no explanation or rational link between the sign and signified, then it cannot be an indicative sign. Sextus attacks both types of connections in order to deny the claim that so-called astrological signs are signs in any sense.

Sextus' attack on astrology provides material to expand upon his discussion of commemorative signs in *PH* II and *M* VIII. Insofar as he argues that so-called astrological signs are not really signs, he presents a case study of (il)legitimate signification. Using Sextus' critique of the astrologers, we will be able to better grasp in what sense commemorative signs must be observable and how he understands the connection between sign and signified. This will lead – in the final section of this chapter – to a discussion of Sextus' own view of science.

Since we are looking for Sextus' view, we should focus on the arguments he owns. Although his attack on astrology begins with some common (Academic) arguments, Sextus makes a clear transition to the Pyrrhonian arguments which he indicates using the first person plural. Here he says that he will attack the Chaldean's starting points (*archai*) and elements (*stoicheia*), (*M* V 49). The *archē* of Chaldean astrology is the “horoscope”

which is the ascending astrological sign at the time of the birth (or conception) of a child.

Sextus argues that if he can show that the horoscope is unknowable, then astrology will also be unapparent:

So a first principle and foundation, as it were, of the Chaldean art is the establishing of the horoscope. For from this, the remaining [heavenly] points are grasped, that is, the falling and ascending signs, the triangular and quadrangular positions, and the formations of the stars according to them. And from these, the predictions are grasped. Thus, if the horoscope is destroyed, then by necessity neither the mid-heaven, nor the setting nor the anti-mid-heaven is known. And if these are inapprehensible, then the whole Chaldean method will disappear along with it [*sunaphanizetai*]. (*M V* 50-51)⁴⁹¹

Astrologers take the horoscope as the reference point for calculating the positions of the rest of the stars. These positions taken together are used to make the predictions, that is, they constitute the sign(s). If the sign cannot be known, then neither can the prediction. Initially, Sextus' argument seems weak. After all, even if we cannot determine the ascending sign at the time of birth (suppose it is overcast to the east), given that the signs all stand in a particular relation to each other – all we need to do is determine the sign in one position and we should be able to calculate the rest. But as we will see, many of Sextus' arguments against the horoscope will work equally well against calculating the position of any of the stars at the time of birth, so using another marker instead of the eastern horizon will be little help.

The above argument is even stronger than Sextus needs if he is arguing against the sign-status of the horoscope; he only needs to argue that the horoscope cannot be

⁴⁹¹ Ἀρχὴ τοίνυν καὶ ὥσπερ θεμέλιος τῆς Χαλδαϊκῆς ἐστὶ τὸ στήναι τὸν ὥροσκόπον· ἀπὸ τούτου γὰρ τὰ λοιπὰ τῶν κέντρων λαμβάνεται, τὰ τε ἀποκλίματα καὶ αἱ ἐπαναφοραὶ τὰ τε τρίγωνα καὶ τὰ τετράγωνα καὶ οἱ κατ' αὐτὰ σχηματισμοὶ τῶν ἀστέρων, ἀπὸ δὲ πάντων τούτων αἱ προαγορεύσεις. ὅθεν ἀναιρεθέντος τοῦ ὥροσκόπου κατ' ἀνάγκην οὐδὲ τὸ μεσουρανοῦν ἐστὶν ἢ δύνον ἢ ἀντιμεσουρανοῦν γινώριμον· τούτων δὲ ἀκαταληπτομένων συναφανίζεται πᾶσα ἡ Χαλδαϊκὴ μέθοδος (*M V* 50-51)

observed. But he argues that the astrologers' putative “signs” do not constitute actual signs because they are not even knowable. Note that the verb used to describe the result [*sunaphanizotai*] suggests what Sextus has in mind. The translation “to disappear together with” may not fully capture the sense in which Sextus thinks that both the astrologers' signs and the “Chaldean method”, as he calls it, are together unapparent, not part of the *phainomena*.

The central problem with the horoscope, as far as Sextus is concerned, is that it is unobservable. Recall that signs – in both the commemorative and indicative cases – must be observable. But astrologers' signs are complex events and so, cannot be observed directly. A horoscope is really the temporal coincidence of the birth (or conception) with the ascending sign. Sextus thinks this includes three distinct aspects: First, the moment of *genesis* must be observed with certainty; second, the instrument that signals the *genesis* [*hōroskopion*] must be unwavering [*aplanes*]⁴⁹²; finally, the ascension of the zodiac sign must be observed accurately (*M V* 52). But none of these conditions can be met, so the sign as a complex concurrence of the birth of a baby at the rising of a particular sign cannot be determined.

The unobservability of the moment of birth would not be a significant issue if the astrologers were only interested in determining the moment of parturition. It is true that childbirth is an event extended in time which requires a longer or shorter duration depending on many factors in each particular case. Sextus makes something of this temporal extension, claiming that it is difficult to say whether birth occurs when the baby

⁴⁹²Sextus is clearly playing with words at *V* 52 since the time of birth would be determined according to the position of the fixed stars which are also called *aplanes*.

is crowning, when he is wholly out of the mother⁴⁹³ or when he is set on the ground (*M V* 65). Sextus is surely right that whichever standard is used, there will be variations depending on the physical condition of the mother and the baby as well as factors like the skill of the midwife (*M V* 66). However, each of these conditions can be observed in spite of these variations, so this on its own does not disqualify it as a sign.

Part of the question here involves the nature and extent of scientific precision in astrology. Ptolemy describes astrology as a *conjectural* (*eikastikē*) science (*Tetrabiblos* 1.2.15, cf 1.1.2), and he claims that some of the predictive failures are due to the nature of the subject matter, including such ineliminable variety. If natural variation in the observable signs results in variations in the effects, but the degree of variation is difficult to determine with precision, then it is unsurprising that even experts sometimes err.

On the other hand, Ptolemy himself says that it is better to use conception as the moment to determine the nature of the human being, looking at the configuration of the stars at that point (*Tetrabiblos* 3.2.1). He admits that the time of conception is often not known, but he indicates that it *can* be known through “observation”, presumably assuming that conception occurs immediately following intercourse. In this case, Sextus has a stronger position. His knowledge of the biology of conception is limited;⁴⁹⁴ but he correctly notes that conception may take place several days after coitus. He gives several reasons for thinking that the time of conception may vary from case to case so that one cannot be sure when conception occurs.⁴⁹⁵ Thus, while the uncertainty surrounding the

⁴⁹³Here I follow Bekker (and the Pellegrin translation). Bury modifies the text to indicate that the second condition occurs when the baby has emerged “a little” (*oligon*).

⁴⁹⁴He uses analogies like rising dough (*M V* 56) and seeds taking root (*M V* 57).

⁴⁹⁵It is worth noting that, in spite of our advanced scientific knowledge, precisely determining the time of conception is still tricky because measurable hormonal changes in the mother do not tend to appear until

timing of the birth may vary by minutes, the uncertainty associated with conception is in the range of several days. In contrast, Sextus insists, the Chaldeans need, not a rough estimate of the time of conception, but a precise one if their predictions are to be reliable (*M V 64*).⁴⁹⁶

Sextus' attack on the mechanism used to determine the position of the stars has a concessive structure. He describes a situation in which the time of birth is communicated to the astrologer by means of a gong since the one who is observing the stars would need elevated (i.e. on top of a hill or mountain) to spot the ascending sign at the horizon. First, Sextus points out that if the time of birth or conception is not known, then there is no way to use an instrument to signal the time of birth (*M V 68*). But, if we allow that the time of birth is knowable, the transmission to the lookout will invariably have a delay, which will cause the lookout to delay in determining the position of the stars (*M V 69*). Sextus shows awareness of the fact that sound takes time to travel; its transmission is not instantaneous (He uses the example of seeing a woodcutter on a hill swing his ax well before the sound of chopping reaches the observer's ears – *M V 70*). This argument is not convincing because the astrologer could well know the delay and adjust his observations for it. Besides, the uncertainty associated with the time of birth is significantly larger than the sound's delay; therefore, such delay will not significantly increase the uncertainty in determining the sign.

Sextus adds that there are further delays in determining the positions of the stars

after the embryo implants in the uterine wall, and even then the changes can often be undetected during the early stages of pregnancy.

⁴⁹⁶I will evaluate this claim after I talk about the other two problems with determining the sign.

after the lookout hears the gong. The heavens do not stand still, and as the observer looks for the planets and the position of the fixed stars, everything is moving (*M V 70*). Sextus is correct about this as well, but again we're only talking about minutes of delay which is not enough to alter the reading significantly. It is in this context that Sextus notes that some births occur when the stars are not visible, for example, during daylight hours (*M V 71*). He adds,

For nights are often cloudy and hazy, and one should be content, if every excuse of this sort is taken away, to find certainty [*bebaion*] in the study [of astrology], but since there is indeed some hindrance to the precise [*akribē*] apprehension of the heavens, it is not at all possible. (*M V 72*)⁴⁹⁷

The point here is that an precise determination of astral-positions is a necessary condition for astrological knowledge; approximate measurements are not good enough. When there is some obstacle to gaining that precision, one cannot be sure of anything else in the science either. Sextus shows awareness that imprecision in one science propagates to those sciences that depend upon it.

Given his awareness of the issues involved in determining the horoscope during the day or when it is cloudy, it is strange that Sextus does not mention the use of star tables by astrologers to calculate the signs and positions of the stars and planets.⁴⁹⁸ He only seems to consider cases where the sign is calculated right at the moment of birth. No

⁴⁹⁷πολλάκις γὰρ συννεφεῖς εἰσιν αἱ νύκτες καὶ ἀχλυώδεις, ἀγαπητὸν δὲ ἦν πάσης ἀναιρουμένης τοιαύτης προφάσεως τὸ βέβαιον εὑρεῖν ἐν τῷ μαθήματι, μὴ τοί γε καὶ κωλύματός τινος ὄντος πρὸς τὴν ἀκριβῆ τῶν οὐρανίων κατάληψιν. (*M V 72*)

⁴⁹⁸Barton (2002) notes this and claims (incorrectly in my view) that these tables “had eliminated most of the problems which [Sextus] mentions” (54). Later she says that tables, like those of Ptolemy, were often only approximate (58). Other astrologers appeared to use rising times from Babylonian sources even though they resided further west and, no doubt, at different latitudes. These further uncertainties in actual astrological practice would have made Sextus' critique more relevant, and it is puzzling that he does not even mention the practice.

doubt, his position would change little if he considered such cases. Even assuming that such tables accurately record the locations of the stars and planets at a particular time and place (something Sextus would deny), they would only give the approximate position of the stars at a different time or place. Moreover, before the invention of modern precise time keeping devices, the only way to be sure of the time at night is by looking at the stars. This raises a circularity problem: In order to use the tables, one must know the time. In order to know the time, one must determine the location of the stars (which the tables are meant to provide). If the current time cannot be determined, then the charts, at best, provide only a rough approximation, and, at worst, they are useless.

Finally, Sextus attacks the determination of the zodiac sign. One problem is mechanical. He describes a water clock mechanism that the Chaldeans used to measure the progression of the signs (*M V* 23-26). But Sextus points out that the mechanism has issues; for example, the flow of the water is not constant, meaning that it does not measure the time accurately (*M V* 75).⁴⁹⁹ Such technological imprecisions can, of course, be improved and do not constitute a serious objection.⁵⁰⁰ More serious is the problem of vagueness that Sextus points out. The astrological signs do not have clearly marked boundaries. The constellations which correspond to the different signs do not all sit in the middle of their respective heavenly hours (*M V* 78). This makes it difficult to tell exactly

⁴⁹⁹Delattre (2006) focuses on this example in her discussion of Sextus' critique of teaching. She points out, quite rightly, that Sextus is making an experimental, that is, empirical point here, rather than a logical point. And she suggests that Sextus is concerned to show that astrology is not useful, rather it is impractical as well as impossible (127). In contrast, I am arguing that Sextus mainly wants to show that so-called astrological signs do not achieve the status of signs; therefore, astrology is not a science (even a dogmatic science).

⁵⁰⁰Ptolemy himself notes the imprecision of various instruments, including the water clock, and he suggests that the best instrument for acquiring a precise reading is the horoscopic astrolabe (*Tetrabiblos* III 2).

when one sign ends and another begins. Moreover, topological differences affect the horizon such that what appears to be the ascending sign at one place can differ from another place even accounting for the relative shift in position. That is, suppose that you and I are about two hours apart in an east-west direction on the surface of the earth. Even accounting for these two hours, our respective observations of the horizon might differ by much more or less than two hours depending on our relative elevation and respective view of the horizon. The earth is not smooth and such differences will affect the observation of the rising sign. It is not clear that this problem would introduce significant error into the determination of the horoscope, especially if it only affects the calculation of the sign by minutes, not hours. But if the reading takes place at the edge of a sign, it could mean the difference between being born under one sign or the other. In one of Sextus' cleverer objections, he observes that light bends as a result of what he calls the thickness or density (*pachumeres*) of the air on the horizon (*M V* 82). Of course, he is not aware that the refraction is caused by the crossing of light from one medium to another (he suggests that it is the same phenomenon as the reflection of light on a water surface), nor is he aware that such refraction can be accounted for in one's observations. But his observance of this phenomenon constitutes one more plausible reason to be uncertain that a given sign is on the horizon simply because one can see it.

The main objection that Sextus brings against determining the horoscope involves the fact that we see different stars at different times depending on the latitude of observation. He calls this the most essential argument against the calculation of the horoscope:

[83] If each of the twelve signs of the zodiac appeared in equal temporal intervals to everyone observing the dwelling of the heavenly bodies and was being seen in accord with the same straight line, then perhaps a child of the Chaldeans could firmly grasp the sign at the horizon. [84] But now since the sign does not appear in an equal temporal interval for all, but to some, it appears more quickly, for others, more slowly and to one it is off on one side, but to another it is straight ahead, it follows that the same sign does not seem to everyone to be the ascending sign (i.e. the horoscope), but that the sign which, for some already seems to appear, is just under the horizon for others; and what appears to the former group in the declination of the ascending sign, to the latter group is observed as the ascending sign. [85] That this is so is already clear [*prodēlon*] from the fact that even the fixed stars, like Arcturus and Sirius, do not appear at the same time to those dwelling in every region, but they appear to some at one time and to others at another time. (*M V* 83-85)⁵⁰¹

In this argument, Sextus uses the fifth mode of Aenesidemus, the mode that appeals to positions, intervals and places (cf. *PH* I 118-123), a species of the mode of relativity (*PH* I 135-140). Since different stars appear to people at different times depending on the latitude at which they reside, there is no guarantee that what appears on the horizon for one person will be the same as what appears to another person in a different place. This argument is clever; and it differs from the argument discussed before because it does not simply rely on variations in the earth's surface, but also includes the relative latitudinal differences in observations. The angle at which one observes the stars varies with one's north / south position, and this means that the length of time it takes from when a star rises to when it sets will differ depending on one's position on the earth. Sextus thinks

⁵⁰¹τὸ δὲ πάντων συνεκτικώτατον, εἰ μὲν πᾶσι τοῖς κατὰ τὴν οἰκουμένην τὰ οὐράνια παρατηροῦσιν ἕκαστον τοῦ ζῳδιακοῦ δωδεκατημόριον ἰσοχρόνως ἐφαίνετο καὶ κατὰ τὴν αὐτὴν εὐθεΐαν ἐθεωρεῖτο, τάχ' ἴσως ἂν ἐδύναντο Χαλδαίων παῖδες παγίως λαβεῖν τὸ περὶ τὸν ὀρίζοντα ἀνίσχον ζῳδίον. [84] νυνὶ δὲ ἐπεὶ οὐ παρὰ πᾶσιν ἰσοχρόνως ἀναφαίνεται ἀλλὰ τοῖς μὲν θάπτον τοῖς δὲ βράδιον καὶ τισὶ μὲν πλάγιον τισὶ δὲ ὀρθόν, ἐπακολουθεῖ τὸ μὴ πᾶσι τὸ αὐτὸ δοκεῖν ὠροσκοπεῖν ζῳδίον, ἀλλὰ τὸ τούτοις ἤδη δοκοῦν ἀνατεταλκέναι, τοῦτ' ἄλλοις ἀκμὴν ὑπόγειον ὑπάρχειν, καὶ τὸ ἐτέροις φαινόμενον ἐν ἀποκλίματι τοῦ ὠροσκοποῦντος ζῳδίου, τοῦτο ἐτέροις θεωρεῖσθαι ὠροσκοποῦν. [85] καὶ ὅτι ταῦθ' οὕτως ἔχει, πρόδηλον ἐκ τοῦ καὶ τοὺς ἀπλανεῖς ἀστέρας, καθάπερ ἄρκτουρον καὶ κύνα, μὴ κατὰ τὸν αὐτὸν χρόνον τοῖς ἐν παντὶ κλίματι κατοικοῦσι φαίνεσθαι ἀλλ' ἄλλοις κατ' ἄλλον. (*M V* 83-85)

this is a problem because if the stars do not appear at the same time intervals, then one can not be sure which sign is on the horizon (especially if the stars are not visibly available).⁵⁰² This argument is effective against the calculation of the current sign on the basis of the star tables which, although Sextus does not mention them, would have been the primary means of calculating the nativity (and the only way during the day or when it was cloudy). If the birth occurs at a different latitude than the location at which the tables were constructed, then it becomes much more difficult to know what is ascendant at the time of birth.

This argument too may not move the reader since the tables can be corrected assuming that one knows the angular difference between the location at which the tables were constructed and one's present location. Even before the time Sextus was writing, astrological theorists had developed the concept of “climes” - defined as the ratio of the longest to the shortest day – which could be used to differentiate latitudinal positions.⁵⁰³ But, this solution makes the task of the astrologer even more complex because it means that the astrological sign is no longer simply the orientation of the stars and planets at a

⁵⁰²Note that the argument against astrology from relative places on earth is also used in Cicero *de Div.* II 92-93 and Aulus Gellius XIV 1.7-11. However, there are important differences between the way that Sextus deploys this argument compared to our other sources. For Sextus, the argument focuses on our inability to determine the correct sign due to variations in position. Cicero claims that the argument shows that people born at the same time in a different place should have a different fate. To make this point, he appeals to meteorological variations that occur due to differences in location. By the time of Sextus, astrologers seem to have conceded Cicero's point, so that we see Ptolemy arguing that there will be differences in one's general character (physical and otherwise) due to relative location (*Tetrabiblos* II 2) and that these general differences take precedence over particular considerations (*Tetrabiblos* IV 10). Long (1982) claims that Sextus simply ignores Ptolemy's concession, using the argument from places as a “dialectical ploy” (176). But I think that Sextus is using the consideration from relative places to press a different point than Cicero does.

⁵⁰³Tester (1987, 42–43) discusses these. Ptolemy describes several climes (*Tetrabiblos* II 2). A star table could be developed for each clime. Long (1982) points out that Bouché-Leclercq says Babylonians were already aware of this issue and noted the relativity of place on some of their astrological tablets (176).

particular time, but also at a particular location. As Ptolemy suggests, the influence of the stars is inferred primarily from the observed effect that the relative positions of the sun and moon have on us (*Tetrabiblos* I 2). But we all know that latitudinal position makes an enormous difference in climatic and other environmental effects. Since we similarly stand in diverse positions relative to the stars, then we have good reason to suppose that their influence will vary like that of the sun. What this means is that the rising of e.g. Gemini at one latitude vs. another does not constitute the same sign. If astrological signs are truly signs, they must be observed relative to a given location on the earth. We should not expect the influence of Gemini to be the same in Greece as it is in Ethiopia any more than we would expect the noon day temperatures to be identical in those two regions. If we want to fine-grain the signs in this way, it will become much more difficult to correlate resulting destinies. Sextus expresses this by saying that we do not know the sign due to variations in relative position. But he could equally say that even if we know the sign, we would not know what it signified due to each sign being determined (in part) by the location at which the birth occurred.⁵⁰⁴

All of these arguments against the horoscope are meant to raise questions about its adequacy as a sign. Sextus' main strategy involves arguing that astrological signs are not observable in any simple sense. They are actually a series of complex observations that

⁵⁰⁴Long (1982) thinks that Ptolemy's and Manilius' accounts of climes shows that astrology already had the means to deal with Sextus' critique (176). But the astrologers seemed primarily interested in using the relativity of place to explain general differences in race and temperament. I take it that Sextus' critique is most effective against the determination of a horoscope for an individual's fate since, although many people are born at the same time, fewer are born at the same time and place. This additional dimension make it difficult to aggregate sign-signified occurrences for the purposes of determining correlations. It is perhaps significant that Sextus is not simply appealing to the fact that the sky looks different at different places. Rather, he seems to be saying that the angular velocity of stars differ relative to place which makes any calculation for determining the relative positions of the stars from a given place more complex.

must be coordinated. If the so-called astrological signs cannot be observed, then they cannot count as signs at all (recall Table 1 above). And they cannot be observed because determining the sign requires that one observe the birth (or conception) and also observe the sky simultaneously, coordinating the two observations. Sextus argues that both observations are impossible and then he argues against the possibility of their coordination for good measure. But even if he grants that astrological signs can be observed, the main problem that he identifies is that future directed signs must have some identifiable connection with their signified results in order to operate as signs.

This leads to the final arguments of the book in which Sextus asserts that the astrological signs cannot signify the kinds of predictions that the Chaldeans offer because the sign and signified do not have any apparent connection. The kind of connection in question depends on the type of sign. For example, knowledge of the connection between a commemorative sign and its signified is grounded in observation and memory, so the sign and signified must be observed together and they must be observed repeatedly to establish a commemorative sign. Sextus argues that neither of these conditions are met. In this way, he indicates that there is a gap between the astrological signs and the predictions that they are taken to signify. If there is no link between the sign and signified, then the horoscope cannot function as a sign. Recall the paradigm case: In a sense, we simply see the fire producing the smoke. This causes us to expect one when we see the other.⁵⁰⁵

Although Sextus does not make it explicit, one can easily see that he constructs

⁵⁰⁵We might wonder about Sextus' other paradigm examples. Do we simply *see* the inevitable link between a heart wound and death? I don't think Sextus would say that we do if we observe merely one instance of a soldier bleeding out on the field of battle. But repeated experiences like this causes us to develop an expectation.

his arguments with roughly two different explanatory theories in mind; call these the rationalist and empiricist views. Under rationalism, there must be some kind of causal mechanism that explains the connection between the cause and effect (recall the passage above from *de Optima Secta*). Under empiricism, causation is irrelevant; what matters is the repeated observance of the sign with the signified. Roughly the structure of the argument is this:

- 1) [For the horoscope to be a predictive sign, either one must be able to causally explain the connection between the sign and the signified or one must observe the sign and signified together repeatedly.]
- 2) We do not (repeatedly) observe the astrological sign together with the predicted life (M V 88-95, 103-105).
- 3) Nor is there a reasonable explanation that connects the sign and the signified (M V 95-102).
- 4) Therefore, the horoscope is not a sign.

The first premise of the argument is unstated (hence the brackets), but is clearly what Sextus must have in mind given the way the book proceeds. He supports premise (2), first, by arguing for the lack of correlation between the sign and signified. We do not have repeated experiences of individuals born under the same sign undergoing the same fate. Rather, many people born under the same sign undergo wildly different experiences (M V 88-89). And people born under the same sign do not all have the same character or even appearance (M V 89, 99). He adds that people born under different signs sometimes

experience the same fate, as when an army loses a battle or a ship sinks (*M V* 91-92).⁵⁰⁶ Moreover, Sextus points out that the stars do not return to exactly the same place year by year. The Great Year – which we now know is due to the axial precession of the earth – is the amount of time it takes for the stars to return precisely to the same location in the sky, which means that the relative locations of the stars on a given time and date (say, 7:37 AM on May 21st) differ from year to year.⁵⁰⁷ Thus, the ascending sign observed at 7:37 AM on May 21st in 1978 will not be the same as the sign observed at the same time on May 21st 2015. So, one cannot correlate repeated significations (i.e. events in someone's life) with the sign observed on the same day of their birth or conception (*M V* 103-105). For all of these reasons, Sextus throws doubt on premise (2) in the argument above.

In order to attack premise (3), Sextus argues against theories that would explain the connection between the sign and the signified. He begins by mocking the link that astrologers make between the names of the signs and the character traits that they are meant to confer. If the Lion produces masculine characteristics, why does the Bull produce feminine? It is likely that the ancients simply named the constellations for their shapes or possibly to help keep track of the star groups (*M V* 95-97). But this point raises another argument which pushes the explanatory gap further. Sextus suggests that the astrologers need to explain why a given constellation produces a given character trait, and he argues that there are only two possible explanations for the link between the constellations and the traits they instill. Either a given trait comes from the constellation

⁵⁰⁶cf. *de Div.* II 97

⁵⁰⁷The period of the precession of the equinoxes is about 25800 years according to NASA (Sextus misstates it as 9977 years). See <http://www.hq.nasa.gov/office/hqlibrary/aerospacedictionary/aerodictall/g.html> (visited on 31 December 2013).

being called something that has that trait; for example, the Lion instills masculinity to the child born under it because lions are brave. Sextus says that this is ridiculous because then we would then expect a child born near an earthly lion to be equally brave, but we do not expect this (*M V* 100). Or alternatively, the stars must change the atmosphere in such a way as to affect the child born under that sign.⁵⁰⁸ Then we should expect that each person born under the same sign would experience (roughly) the same fate. But we can observe that this does not occur because not everyone born under Leo falls into debt or becomes a king or experiences various other things in common (*M V* 101). At times, Sextus simply seems to be complaining about the types of predictions made. It is absurd to think that everyone born under the sign of the Virgin will have fair skin given that there must be Ethiopians who are born at that time of year (*M V* 102). Of course, as we've already seen, Ptolemy responds to these latter kinds of objections by admitting that variations due to location are significant. But Sextus could push the objection further: Even people born in roughly the same location at roughly the same time (e.g. twins) seem to have wildly different lives.

Sextus' argument against premise (3) initially seems weaker. While it might be reasonable to demand an explanation for the connection between the sign and signified, the putative explanation does not need to be *causal*. That is, a predictive sign need not be the cause of its signified. It only has to precede (or perhaps originate simultaneously with) the signified.⁵⁰⁹ Of course, the Chaldeans claim that the stars have power to

⁵⁰⁸This is exactly the explanation that Ptolemy favors (*Tetrabiblos* I 2).

⁵⁰⁹Long (1982) suggests that Sextus only attacks "hard" rather than "soft" astrology (185). Long defines these terms, saying "I will distinguish during this paper, between 'hard' astrology, which claims that heavenly bodies are both signs and causes of human affairs, and 'soft' astrology which regards heavenly bodies only as signs of human affairs without also attributing a causal role to the heavenly bodies..."

influence human life (as I just mentioned, Ptolemy holds this view), which means that Sextus can rightly question how this causal connection works. But Sextus' own view of commemorative signs makes no demands regarding the existence of a causal connection. For example, he does not need to know the nature of the chemical reaction that produces fire in order to recognize that smoke is a sign of fire. He does not need to have a complex theory of the operation of the heart and the blood to recognize that a wound to the heart signals death. Even more relevantly, the rising or setting of a particular constellation may signal the time to plant or to harvest, but that is not because these events *cause* the crops to grow or to die. Rather, they just happen to be temporally coordinated with the causal process – namely, the movement of the earth around the sun which causes the seasons. Likewise, the astrologer does not need to claim that he knows how (or even whether) the stars causally influence us in order to recognize a horoscope as the sign for a particular fate.

As a result of this line of thought, we might wonder why Sextus does not consider other possible (i.e. non-causal) connections between the horoscope and fate. Perhaps Zeus places the sign in the sky in order to publicize the fate that he himself causes.⁵¹⁰ But think about what kind of sign this would be: It would have to be either a natural sign or a conventional sign. A natural sign, that is, one which is naturally linked to the signified in some way, would presumably either be a cause that signifies its effect directly (which

(170, n19) I agree that Sextus certainly claims the Chaldeans are “hard” astrologers (M V 4,5), but his attack on astrological signs applies equally well to both hard and soft astrology, since the only actual way to come to know “soft” astrological signs is through repeated observation of correlated events.
⁵¹⁰Cicero discusses the argument that the gods make these things known to us out of their concern for humankind (*de Div.* II 101-102). See also Aratus *Phainomena* 4-9 and Manilius *Astronomica* IV 915-921.

Sextus considers) or it might be a coincidental sign where the coincidence is causally explainable. For example, the halos around the sun do not *cause* a storm, but – presumably – the sign-signified connection between halos and storms could be causally explained because the meteorological processes which tend to precede storms also make halos appear around the sun. On the other hand, a conventional sign could only be known through observation or by some kind of direct revelation. It is true that Sextus does not consider the possibility that the gods have provided a star/fate decoder (presumably because there is not one on offer). The only way to determine the meaning of a conventional sign without a dictionary is through repeated observation of the sign with the signified. But then the possibility that the gods cause both the astrological signs and our fates falls under premise (2), which Sextus has already attacked. Apart from repeated observation, the only way a scientist can predict a future occurrence is if she knows the starting conditions (the sign) and the mechanism (the causal explanation) by which those conditions produce the future event (the initial conditions and the laws which govern the causal process). That is, the theory can only produce an accurate prediction if it adequately explains the connection between the sign and the signified. Insofar as the causal connection is not naturally perspicuous, Sextus thinks that the astrologers must rely wholly on observation and not theory to predict the future on the basis of the horoscope.

He claims that the astrologers themselves recognize that the signs do not naturally communicate the relative fates of individuals, and that these things are known through observation (*M V* 103). He then presses the aforementioned point regarding the Great

Year. The stars must be observed in the same location, not with respect to one or two lives, but relative to several lives before the astrologer can be sure that she has observed the sign and signified together enough to know what the sign signifies:

But generally, since they [the astrologers] say that the stars do not indicate to them the differences among human lives, but that they have observed them [the differences] together with the relative position of the stars, I say that if the prediction will be sure, the same relative position of the stars must be observed together, not with the life of one particular person, but it must also be observed together with that of a second and with a third, in order that we should learn the result of the relative positions of the stars on everyone from what is consistent [among the observations] since, when the stars land in this kind of configuration, this will definitely be the result.[104] And just as in the way we observed in medicine that the wounding of the heart is a cause of death,⁵¹¹ having observed not only the end of Dion by this, but also Theon and Socrates and many others, even in this way in astrology, if it is believable that this arrangement of the stars is established as signifying this type of life, it ought to be assuredly observed, not once in one case, but often in many cases. (*M V* 103-104)⁵¹²

It has rightly been noted that this is a clear statement of the empirical requirements of a science.⁵¹³ But, it is more than that. As we have already seen, the example of a wound to the heart is a paradigm of a commemorative sign. Sextus is appealing to the criteria of the commemorative sign which the astrologer's signs cannot meet: Each sign-signified

511Here I follow the Bury and Pellegrin who take one of the mss. variants. As Pérez points out, this is a standard case in empirical medicine which we've already discussed in Galen and Ps-Galen above. Note that the main manuscript reads καὶ ὃν τρόπον ἐν τῇ ἰατρικῇ ἐτηρήσαμεν ὅτι ἡ τῆς καρδίας περίψυξις ἐστὶ θάνατος, which translates "and just as in the way we observed in medicine that the cooling of the heart is death..." Although the example is slightly different, I don't think it makes a difference to my overall point here.

512[103] καθόλου δέ, ἐπεὶ οὐδ' ἐνδείκνυσθαι λέγουσιν αὐτοῖς τοὺς ἀστέρας τὰς τῶν ἀνθρωπίνων βίων διαφοράς, ἀλλ' αὐτοὶ ταύτας συμπαρατετηρηκέναι ταῖς τῶν ἀστέρων σχέσεσι, φημὶ ὅτι εἰ μελλήσει βέβαιος πρόρρησις γίνεσθαι, δεῖ τὴν αὐτὴν τῶν ἀστέρων σχέσιν μὴ ἄπαξ συμπαρατετηρηκέναι τῷ ἐνὸς τινὸς βίῳ ἀλλὰ καὶ δευτέρου δευτέρου καὶ τρίτου τρίτου, ἵνα ἐκ τοῦ διομαλίζειν ἐπὶ πάντων τὰς τῶν ἀποτελεσμάτων ἐκβάσεις μάθωμεν, ὅτι τῶν ἀστέρων τοιοῦτον ἀναδεξαμένων τὸν σχηματισμὸν τόδε πάντως ἔσται τὸ ἀποβησόμενον. [104] καὶ ὃν τρόπον ἐν τῇ ἰατρικῇ ἐτηρήσαμεν ὅτι ἡ τῆς καρδίας τρώσις αἰτιὸν ἐστὶ θανάτου, οὐ τὴν Δίωνος μόνον τελευτὴν αὐτῇ συμπαρατηρήσαντες ἀλλὰ καὶ Θέωνος καὶ Σωκράτους καὶ ἄλλων πολλῶν, οὕτω καὶ ἐν μαθηματικῇ εἰ πιστόν ἐστιν ὅτι ὁδε ὁ σχηματισμὸς τῶν ἀστέρων τοιοῦτου βίου μηνυτικὸς καθέστηκεν, πάντως οὐχ ἄπαξ ἐφ' ἐνὸς ἀλλὰ πολλάκις ἂν ἐπὶ πολλῶν παρετηρήθῃ. *M V* 103, 104

513Hankinson (1995, 261).

relation must be observed repeatedly in order to see what is consistent among the observed lives. Here, as before, Sextus emphasizes positive correlation and ignores negative correlation.⁵¹⁴ It is in this context that Sextus points out that the stars are only ever exactly in the same relative positions once every Great Year which means that repeated astrological observations are practically impossible. The *kosmos* may be destroyed before we can get enough samples to draw any conclusions, or perhaps we'll just lose the records before we reach such a point (*M V* 105). With this, Sextus closes out his argument, claiming that he has offered what can be said against the astrologers.

Sextus is surely right that it is difficult (if not impossible) to observe repeatedly the same relative position of all of the stars and planets in order to determine how that precise configuration relates to the fate of each individual born at that exact moment. But much of the criticism that modern scholarship aims at Sextus suggests his demands are too strict. As I've already pointed out, ancient thinkers recognized astrology as a fallible and approximate art.⁵¹⁵ In fact, Ptolemy's defense of astrology, arguing for the fallible character of this so-called science, denies the requirement that *identical* configurations of stars be correlated with the events in individual lives. He says,

For generally, besides the fact that every theory concerning the quality of matter is conjectural [*eikastikē*] and not absolutely certain [*diabebaiōtikē*], especially the theory that is composed of many disparate elements, and further, that the ancient configurations of the planets from which we adapt to those which similarly hold

514In order to be sure that X is the sign of Y, one would want to establish, not only that Y repeatedly and reliably follows X, but that Y does not repeatedly and reliably occur when X is missing. For example, it is true that everyone born under Gemini eventually dies, but no one would accept that this “consistent” observation is relevant in determining the influence that the stars have on the individual fate.

515Long (1982) thinks that Ptolemy adequately meets Sextus' objections (186, 187). Hankinson (1988) concludes more modestly that it was rational for the ancient Greeks to believe in divination (and presumably by extension, in Ptolemy's astrology) or to be more precise, he says that it was as rational to believe in it as it was to accept the claims of ancient doctors (157-159).

now the results that have been observed based on those configurations by our predecessors, similar [configurations] can more or less occur; and these happen over a long circuit. But they are not at all exactly similar since the joint return of everything in the heavens precisely with the earth (unless one should have a vain belief in the apprehension and knowledge of the inapprehensible) either does not happen at all or else it is not at any rate observable in time by humans, so that, on account of this, the predictions are sometimes wrong when the foundational examples are dissimilar. (*Tetrabiblos* 1.2 pp 14-17)⁵¹⁶

Ptolemy is well aware of Sextus' point that the astrological configurations are rarely identical, if ever (presumably he has in mind the possibility of the conflagration of the *kosmos*). But he thinks that predictions are still possible with the caveat that their reliability depends upon the similarities between the cases. In part, he seems to cast blame on the ancient records; future predictions cannot be any better than the underlying data. If the previous astrologers made mistakes, then those errors will propagate into future prognostications. Given this, it is no surprise that predictions are wrong on occasion, but this does not throw the entire science into doubt. Ptolemy thinks that as long as the similar cases are correctly identified, we can determine what results follow from those cases. In a sense, Ptolemy agrees with Sextus that he needs to observe more than one data point in order to find out what each astrological configuration portends. The difference is that Sextus demands that the configuration match exactly whereas Ptolemy argues that we can get reliable predictions from similar, but non-identical

516[1.2.15] καθόλου γάρ, πρὸς τῷ τὴν περὶ τὸ ποιὸν τῆς ὕλης θεωρίαν πᾶσαν εἰκαστικὴν εἶναι καὶ οὐ διαβεβαιωτικὴν καὶ μάλιστα τὴν ἐκ πολλῶν ἀνομοίων συγκριναμένην, ἔτι καὶ τοῖς παλαιοῖς τῶν πλανωμένων συσχηματισμοῖς, ἀφ' ὧν ἐφαρμόζομεν τοῖς ὡσαύτως ἔχουσι τῶν νῦν τὰς ὑπὸ τῶν προγενεστέρων ἐπ' ἐκείνων παρατετηρημένας προτελέσεις, παρόμοιοι μὲν δύνανται γίνεσθαι μᾶλλον ἢ ἦττον καὶ οὗτοι διὰ μακρῶν περιόδων, [1.2.16] ἀπαράλλακτοι δὲ οὐδαμῶς, τῆς πάντων ἐν τῷ οὐρανῷ μετὰ τῆς γῆς κατὰ τὸ ἀκριβὲς συναποκαταστάσεως, εἰ μὴ τις κενοδοξοίῃ περὶ τὴν τῶν ἀκαταλήπτων κατάληψιν καὶ γνῶσιν, ἢ μηδὲ ὡς ἢ μὴ κατὰ γε τὸν αἰσθητὸν ἀνθρώπῳ χρόνον ἀπαρτιζομένης, ὡς διὰ τοῦτο καὶ τὰς προρρήσεις ἀνομοίων ὄντων τῶν ὑποκειμένων παραδειγμάτων ἐνίοτε διαμαρτάνεσθαι. (*Tetrabiblos* 1.2 pp. 14-17)

configurations.⁵¹⁷

Ptolemy affirms that other factors besides the stars and planets influence each individual's future. The genus of the parental seed is a primary influence since a horse will produce a horse and a human a human regardless of the configuration of the stars (1.2, Loeb p. 17). In addition, culture, location and ethnicity influence one's life. Although Ptolemy declares that the stars have the greater influence compared with these other factors, he warns that if they are not taken into account, they can cause *aporia*. The idea seems to be that a prediction which does not consider all of the possible causal factors is likely to go wrong.

Ptolemy appeals to the analogies of the pilot and the doctor in order to render his claims about the scientific status of astrology plausible. Although pilots sometimes make mistakes, that does not impugn the art of navigation. And physicians must take into account the particular facts about the patient and the patient's history even if the primary focus is on the illness and its general character.⁵¹⁸ So we should not question the art of astrology if astrologers sometimes make mistakes or if they must also take into account facts about location, culture or ethnicity.

Tony Long argues that Sextus' "principal target" cannot be Ptolemy, in part,

⁵¹⁷Hankinson (1988) explains Sextus' arguments as a dilemma about the temporality of reading the positions of the stars (132-3) which is really just another way of talking about the relative positions of the stars (it makes no difference if we're talking about the stars moving a little over the course of an hour or if we're talking about the stars returning to the same approximate location after a year). Hankinson claims that Sextus argues that if the positions of the stars must be precisely determined, then the truths about astrology are ultimately unknowable. On the other hand, if only approximate readings are necessary, then the astrological claims are demonstrably false.

⁵¹⁸Similar claims are made by the Hippocratic author of *On the Art* who blames the patient for some of the doctor's mistakes. If the patient does not follow the doctor's instructions, the doctor can hardly be to blame (7.17-34). Similarly, if the doctor is unable to get all of the necessary information (because the patient doesn't know it), then it can hardly be the doctor's fault when a diagnosis based on misinformation fails to hit its mark (9.1-28)

because Sextus' arguments seem to aim at a “primitive” form of astrology.⁵¹⁹ While there is no evidence that Sextus is addressing Ptolemy's arguments directly, it is not so obvious that Ptolemy escapes the skeptic's net as Long suggests. Ptolemy argues for a heavenly causation which is not absolutely deterministic since the stars are only one of the factors that influence a human's destiny; knowledge of astrology does not provide infallible knowledge of the future on its own.⁵²⁰ Long says,

The thesis that astrology identifies predisposing conditions enables Ptolemy both to defend its utility as a quasi-medicinal art, and to meet the objection that its predictions undermine human precautions. His astrologer does not advance exceptionless generalisations, but gives reasons for expecting certain occurrences.⁵²¹

While Ptolemy conceives of astrology as a fallible art, he does not directly address Sextus' concern about connecting the sign to the signified. Ptolemy admits that the causal connection between the heavens and human fate must be repeatedly observed, but he claims that the sign need not be perfectly identical to produce a reliable prediction; similar astral configurations will produce similar results.⁵²² One difficulty with this, as Sextus points out, is determining what counts as the sign. How similar does the configuration of the stars need to be in order to be similar enough? Ptolemy does not say. But even if he could provide an answer, his apparent solution runs the risk of making astrology indefeasible. Any time a different result is observed, it can be blamed on

⁵¹⁹Long (1982, 186)

⁵²⁰To be fair, Long (1982) argues that Ptolemy's escape comes at a price: “He has made it difficult to refute astrology, but his disclaimers are so extensive that they seem to make it dispensable” (187).

⁵²¹Long (1982, 182–183). Long goes on, “Ptolemy's insistence on the effect of non-celestial causes, and his claim that general effects have stronger celestial causes than individual characteristics, enable him to provide some answers to most problem cases that could be advanced against him. He admits that many predictions are bound to fail” (183).

⁵²²In contrast to this, Manilius suggests that early astrologers found that small differences in the stars can make a great difference in an individual fate (I 53-57).

differences in the stars. This move differs from an appeal to “Weak” Astrology. Weak Astrology is indefeasible because the predictions themselves are vague and unfalsifiable.⁵²³ Ptolemy allows for exceptions that even protect the science when particular “Strong” predictions turn out to be false. If a prediction is incorrect, it can be blamed on the underlying data or an inaccurate (and uncorrectable) historical record. Such post-hoc exceptions run the risk of undermining the empirical nature of this so-called science.

Although Sextus does not explicitly address Ptolemy's move to minimize the relevance of slight variations in the configurations of the stars, he does address a similar point about whether a rough estimate of the time of the ascendant sign is adequate or whether the determination must be exact. He gives this response:

But if they, reversing position, should say that the time is not acquired precisely, but roughly and loosely, *they will likely be refuted by the results of their own predictions*. For those who are born at roughly the same time do not live the same life; rather some, for example, are kings while others grow old in chains. (*M V 88* – my emphasis)⁵²⁴

Sextus then goes on to give a number of other purported examples of people born at roughly the same time who experience different fates (89) and he adds that people who are born at different times often experience the same fate, for example when a group dies in the same battle, or is crushed by a collapsing building, or drowns in a shipwreck (90-91).⁵²⁵ The point should be clear: Sextus thinks we should test the astrological science and

⁵²³Hankinson (1988, 133–135).

⁵²⁴Εἰ δὲ ἀναστρέψαντες λέγοιεν μὴ τὸν ἀκριβῆ χρόνον λαμβάνεσθαι ἀλλὰ τὸν ὀλοσχερῇ καὶ ἐν πλάτει, ὑπ' αὐτῶν σχεδὸν ἐλεγχθήσονται τῶν ἀποτελεσμάτων· οἱ γὰρ ἐν τῷ αὐτῷ καθ' ὀλοσχέρειαν χρόνῳ γεννηθέντες οὐ τὸν αὐτὸν ἐζησαν βίον, ἀλλ' οἱ μὲν λόγου χάριν ἐβασίλευσαν οἱ δὲ ἐν πέδαις κατεγήρασαν. (*M V 88*)

⁵²⁵Here we see that Sextus establishes that the astrological signs are neither necessary nor sufficient for inferring their predictions.

see if its predictions are accurate. Do the same signs actually produce the same results? Sextus predicts that we will find they don't hold up under investigation. And this is where Sextus' answer is perhaps more sophisticated than Long credits. It is true, of course, that for any individual failed prediction, Ptolemy has a set of ready made responses. Perhaps there is an error in the ancient data; perhaps the correlated signs weren't as similar as we had thought; perhaps we made a mistake in calculating the sign ourselves. The problem, as far as Sextus sees it, is not a matter of particular mistakes. The problem is a lack of reliability. Commemorative signs are only established when there is a link between the sign and the signified, and that connection must be repeatedly observed before we can make any reliable predictions about what should follow from one sign as opposed to another.

Sextus' attack on astrology is unusual when compared to Pyrrhonian attacks on other subjects because he is not arguing for the conceptual incoherence of the subject matter. Rather, he attacks astrology's credentials as an empirical, observation-based, science. And in so doing, he reveals – at least implicitly – what he himself sees as necessary components to such as a science. I turn to this in the final section of this chapter.

4.5. An Empirical Science Based on Commemorative Signs

Now that I have discussed Sextus' attack on astrology, I am ready to return to the question posed earlier about why he accepts a form of empirical astronomy while he rejects astrology. This question is puzzling because both subjects were taught by

dogmatists, and adherents of both subjects appealed to observable signs in the sky in order to make their predictions. Why does Sextus accept the one while he rejects the other?

We've seen that this question can be understood in two ways, as a question of motivation and as a question regarding scientific approach. If we ask why Sextus is motivated to attack the astrologers, he makes this clear at the beginning of the book. He claims that they are not simply dogmatists, but invasive dogmatists; they generate fear and distress in their listeners by telling them to expect all sorts of goods or ills in the future.⁵²⁶ In contrast, the empirical astronomy that Sextus favors does not attempt to annex the listener psychologically. True, it is still a practical art that can suggest activities based on its predictions (e.g. it can help you determine when to sow or reap). But these are not predictions regarding major life events, like death, or political events, like war. Rather they are predictions about mundane everyday events like, "it's going to rain" or "winter is coming." Given that Sextus contends for *Life*, he has no problem with these kind of predictions.

Astrology and empirical astronomy also differ with respect to their scientific approach. As I argued in the previous section, Sextus thinks that astrology ultimately fails as a skeptical science because of the status and character of its sign predictions. Its predictions are not based on real signs because a) the signs themselves are not observable in any straightforward sense, rather they are complex events that involve non-observable coordination; and b) there is no reliable way to establish a link between the sign and the

⁵²⁶Keep in mind that Sextus thinks the anticipation of the good can be just as distressing as the dread of an impending bad. cf. *PHI* 26-27

signified. In Book V, Sextus considers the possibility of a rational link, as well as of a straightforward empirical link, and he rejects both of them. We know from other texts that Sextus himself only accepts commemorative signs, that is, signs established by observing the coincidence of the sign and signified. And this leads us to understand how he can accept empirical astronomy as a skeptical science.

I claim that Sextus accepts empirical astronomy as a legitimate skeptical science for three reasons. First, its signs are directly observable; second, the sign-signified relationship is established through repeated observation and need not have any theoretical backing to be useful; and finally, it is continually open to revision on the basis of further observation.

Ancient empirical astronomy involved directly observing and describing the astronomical bodies and their movements. As I described in the first section of this chapter, the ancient astronomers mapped out the relative positions of the fixed stars through the course of the year and used them to predict seasons and weather patterns on the basis of those positions. Consider now the sign-signified relationships in empirical astronomy. When Aratus tells us that the setting of Pleiades indicates ploughing time (255-267), the sign is the disappearance of the constellation below the horizon. There is a sense in which this sign is simply and directly observable. One can observe the progression of Pleiades across the sky until it disappears below the horizon.⁵²⁷ In this case, there is no coordination that involves matching a particular configuration of stars

⁵²⁷ In another sense, observing a disappearance is a complex event because one must be aware of a presence followed by an absence. But since the yearly movement of the stars is so regular, the sign could simply become “when the stars look like this” where “this” picks out the configuration after Pleiades has set. That configuration would be simply observable.

with some other event (like birth or conception). The sign is a particular organization of the stars which can be directly observed, once one has become familiar with them. Of course, astronomical signs can still be obscured by misty clouds or daylight. But the skeptical astronomer need not be committed to the idea that the sign is still available although obscured in the way that the astrologers are committed to everyone having a horoscope whether it is visible or not.

The skeptic can also accept empirical astronomy because she has no need of a causal explanation for the link between the sign and signified. The connection is only established by means of repeated observations. For example, the setting of Pleiades, which was a harbinger of winter, has been observed for generations, so it meets the demands for repeated observation that Sextus lays out when he attacks astrology.

Finally, empirical astronomy as a skeptical science is continuously revisable. One might worry that some of the signs Aratus gives sound crude and unreliable, or even simply false. For example, he says that “[the sun] reddens here and there when clouds are trailing over him, or if there is any dark patch: let the latter be your sign for oncoming rain, and red spots always for wind” (835-837). It seems implausible that the sun looking spotty in the clouds should indicate rain or wind. But Sextus need not worry about instances of false signs. He is in no way committed to the empirical method always yielding the right answer. Indeed, even if the sign is correct, he will always suspend judgment about the outcome of the prediction. But the skeptical astronomer who follows the empirical method will pay attention to the appearances in the sky when they indicate that the purported sign is wrong. This will then feed into his understanding of the sign-

signified relationship, perhaps causing him to discard the sign altogether or perhaps allowing him to tweak the sign, noticing additional features which are concomitant with the original sign. For example, “Now I see that not simply any clouds that give the sun black spots indicate rain, but clouds of this particular shape and color.”⁵²⁸ By allowing new observations, the claims of skeptical science are always falsifiable and hence revisable.⁵²⁹

Thus, Sextus accepts empirical astronomy as a legitimate skeptical science because it involves sign-signified relations which are established through repeated direct observations. These relations have no (nor do they need) any theoretical backing, and they are constantly open to revision on the basis of further observation. These three points represent a general characterization of skeptical science, and they give us a fuller understanding of the commemorative signs that Sextus implicitly accepts. What makes a science acceptable to Sextus is the observable character of the signs themselves. They must be directly observable where that means that the sign can just be “seen” in some sense. Signs which require the coordination of multiple events are not really signs. In addition, Sextus claims that a single observance is insufficient to establish a putative sign-signified relationship. The pairing must be observed multiple times in order to

⁵²⁸One might also worry that skeptical science will still be less reliable than dogmatic science because it does not attempt to understand the causal connections that underlie these sign-signified relations. But, given that the movement of the stars can be useful for calculating the passage of time or anticipating changes in the seasons even though the stars themselves do not causally determine the seasonal changes, Sextus ought not limit acceptable signs to causal claims. That is, I take it as a strength of the skeptical position that it allows for both causal and non-causal signs. Sextus accepts what Long might call “Soft Astronomy” since astronomical signs do not necessarily cause their particular signified (see n509 above for the distinction on “Hard” and “Soft” astrology).

⁵²⁹Aratus himself admits that some of the signs only provide very loose guidance (758-777): The expected storm may arrive on the 3rd day or the 5th. Or it may arrive unexpectedly. Zeus gives signs to help us, but he has not revealed everything although he may reveal more at a later time.

establish the connection. Finally, because each sign-signified pairing is established by observation, it is always open to revision with further observations.

Scholars sometimes say that Sextus proves too much, that his attack on the dogmatists can easily be re-tooled to target his own position. At first glance, it might have seemed that his arguments against astrology could be applied equally to the skeptically acceptable astronomy. Hopefully, now, we can see that Sextus' acceptance of astronomy does not run afoul of his critique. The problems that astrologers have in constructing complex signs and connecting them to observable lives are not problems for the astronomer. The signs that the astronomer uses are simply the relative configuration of the stars (and often the meteorological phenomena that occurs with it). The astronomer simply appeals to the appearances, where the connection of the sign and signified is the appearance of one thing following another. The link between them is established through the kind of repeated observation that is unavailable to the astrologer. All of these reasons indicate that it is not fair to indict Sextus with having proven too much.

A more interesting objection to my proposal is that although Sextus argues against astrology, he is not committed to the view that astrology is false. As a skeptic, he should suspend judgment about the veracity of astrology's claims. Therefore, none of Sextus' arguments against astrology should be used to indicate his views on skeptical science. Indeed, those arguments do not represent his views at all, and he could make equally strong arguments in favor of astrology.

While I admit that Sextus suspends judgment on astrology with respect to its dogma, he makes it quite clear that, for all practical purposes, he opposes it because it, in

some sense, invades his skeptical life (*M V 2*). Moreover, he can maintain his skeptical viewpoint while stating that astrology *seems* to him to be harmful and that it should be discarded. And I propose that this is just what he is doing in *Against the Astrologers*. The arguments of book V are not only meant to operate on its readers *epistemically* to induce the suspension of judgment, but also *rhetorically* to change their behavior. While the arguments for and against astrology seem equally weighted, it also appears to Sextus that astrology is not a science worth practicing because it requires dogmatic commitments in a way that empirical astronomy does not.

This point is relevant to understanding *Against the Professors* as a whole. I have argued that the attack on astrology in *M V* does not seem to fit with the stated purpose of the work. Sextus claims that he will be targeting a group of well-known subjects. But our evidence suggests that while astronomy was certainly part of a standard education, what we would call predictive astrology was not taught, beyond ensuring that students could identify the constellations that constitute the zodiac. I have claimed that this focus would not be missed on Sextus' readers and that it demands an explanation. My solution is that he does not attack the astronomy covered in the schools because of its status as a skeptically acceptable empirical science. We see that Sextus describes what appears to be the type of astronomy produced by Aratus and Geminus (he explicitly mentions Eudoxus and Hipparchus) as a predictive science based on the observation of the *phainomena* (*M V 2*). Given that this science is grounded in commemorative signs, it is the best example of a viable science among the subjects taught.

As an alternative, Sextus attacks the astrology of the Chaldeans because – as he

makes quite explicit – they are invasive dogmatists. Their putative science invades and threatens the skeptical life. So instead of opposing astronomy, Sextus attacks astrology by arguing that astrological “signs” are not really signs at all. His criticisms of these putative signs led us to fill in the account of commemorative signs offered in the *Outlines* and *Against the Logicians*. I have claimed that a legitimate skeptical science is one based on commemorative signs where those signs are in some sense directly observable. Moreover, the sign-signified coincidence must be observed repeatedly and the sign is always open to revision on the basis of further observation. In addition to helping us understand what Sextus means when he says that a skeptic can engage in professions that involve expertise (*PH* I 23-24), this account helps make sense of book V because it explains why he accepts astronomy, but opposes astrology as a science.

If Sextus means, in his attack on the astrologers, to tacitly affirm an empirical approach to predictive astronomy, then we can best understand this book (and, perhaps, the treatise as a whole), not simply as an attack on one (or more) particular educational subjects, but more broadly as a cultural critique that aims at opponents who, not only oppose, but actively disparage and disrupt skeptical living.⁵³⁰ This book shows us that Sextus is not only interested in attacking various disciplines in *Against the Professors*. Rather, he targets those groups within the culture that appear to him to threaten the skeptical way of life.

⁵³⁰It is, of course, premature to draw any general conclusions about the treatise as a whole solely on the basis of the results of our look at this one book. However, I take it that these results are suggestive and in the next, and final chapter, I will point out several other places where Sextus indicates his interest in attacking invasive dogmatists.

Chapter 5: A Sceptically Acceptable Science

Sextus' attack on the disciplines in *Against the Professors* takes a number of different forms. In chapter 2, I argued that, against the musical theorists, he takes an eclectic approach which borrows liberally from a variety of sources, including his own past work. Sextus shows awareness that many of his sources are dogmatic, but he indicates that he does not mean to accept the conclusions dogmatically. At the same time, his own arguments against the musicians attack, not the musical theory itself, but the metaphysical presuppositions on which those theories depend.

Having suggested that Sextus does not appear to take a dogmatic position about the non-existence of musical science or the impossibility of scientific investigation, I then looked at Sextus' attack on the geometers in chapter 3. There, I argued that he is committed to a certain skeptical methodology that, in part, constitutes his investigative practices. Skeptical investigation goes hand-in-hand with the skeptical practice of suspension of judgment, and we saw that Sextus uses his skeptical powers to attack, not only the presuppositions of geometry, but also their investigative methods. At the same time, the attack on geometry illustrates one way in which the skeptic learns a subject while being critical of its pretentiousness. The skeptic can investigate and understand geometry as a set of conceptual relations and derivations. One might even imagine that she could make a career of proving new theorems in geometry. What the skeptic suspends judgment about is whether the claims of geometry somehow reveal or explain the nature

of space and bodies.

The notion that skeptics could understand and even expand a given science led us to the discussion of astrology and astronomy. In the penultimate chapter, I argued that Sextus not only investigates and understands dogmatic sciences, like geometry and arithmetic, but that he also accepts a certain form of empirical science based on a collection of commemorative signs, established over repeated observations and open to revision based on further empirical evidence. Sextus' critique of astrology seems to be primarily based, not on the conceptual problems with astrology's metaphysical presuppositions, but rather on the fact that astrological “signs” cannot be real signs at all.

Thus, I have discussed the skeptical attitude toward the sciences, the skeptical method of investigation, and the general structure of skeptical science itself. In this final chapter, I will conclude by sketching the aim of such science. Of course, as a skeptic, Sextus cannot pursue the sciences in order to understand the way things really are. While, in general, we think the goal of science is to explain or understand the domain in question, the skeptic suspends judgment about such things. So, why does the skeptic investigate the sciences? In this chapter, I will answer this question by returning to the puzzles about skeptical expertise which I raised earlier in this work.

5.1 Puzzles of Skeptical Expertise Revisited

In the introduction, I raised two puzzles for Sextus' skepticism and the account of expertise that he offers in his works, and especially in *Against the Professors*. I called these the Erudite Skeptic problem and the Teaching Expertise problem. Recall that the

Erudite Skeptic problem raises the question why the skeptic pursues these subjects of study given that she suspends judgment about them. Why bother learning something if you're not going to be convinced that any of it is true or real? In the proem of *Against the Professors*, Sextus seems to take some pride in the fact that skeptics are more educated and experienced than other philosophers (*M I 5*). Still, he claims that when older skeptics learned these subjects, they found numerous conflicts and difficulties (*M I 6-7*). One is left to wonder why future skeptics learn anything if they already know that all of these subjects have problems. Why does Sextus value erudition if he does not think that the subjects he studies tell him anything about the world?

I described a partial answer to the question of the Erudite Skeptic when I discussed the role that investigation plays in the suspension of judgment. I suspect that many people view suspension as something like the conclusion – if not of an argument, at least of an activity. In contrast, the pragmatic interpretation of the Agrippan modes shows that suspension does not conclude investigation, but rather initiates it. The Erudite Skeptic puzzle assumes that suspension is the end of investigation. But Sextus does not think about it this way. Instead, suspension occurs toward the beginning of the investigation. The skeptic suspends judgment when she realizes both that there is an undecided disagreement and that she needs to learn more about the various positions in the dispute before any decision is possible. So, there is not problem with suspending judgment *and* pursuing an education at the same time.

Moreover, the skeptic goes along with *Life* and follows the appearances. Going along with the appearances includes following the education curriculum available in one's

cultural setting (Recall that customs and laws are also part of the skeptical criterion of action; cf. *PH* I 23-24). The child of a skeptic learns her letters and numbers, just like the other children. And the mature skeptic will be satisfied learning the things that other people learn without necessarily thinking that those subjects apply to reality. Sextus is clear that the skeptic does not disparage these subjects, in contrast with Epicurus, even though she suspends judgment about their claims (*M* I 1,5-6). In fact, as the skeptic pursues these subjects, she may find that the subject simply spells out the way things appear, as ancient empirical astronomy does (*M* V 1-2). So we ought not think that the skeptic simply assumes that all studies have problems and difficulties. And in fact, if the skeptic is aware that a discipline does have puzzles, that may be all the more reason to investigate it. In any case, a subject's having unanswered questions does not preclude it from being useful.

At the same time, the skeptic's general attitude of acquiescence – going along with the education system – does not keep her from critically engaging with the subject matter. It may appear to the skeptic that a subject is worse than useless; this is what Sextus seems to think about Chaldean astrology. Of course, this attitude toward a given subject can really only occur once the skeptic has some passing familiarity with it. This point leads us to better understand, for example, the attack on the Grammarians or the Astrologers. The claims that Sextus makes against these subjects indicates that he is not simply troubled by the anomalies and conflicts in their theories. The experts in these subjects are especially troubling because of the standing they think their discipline has in terms of achieving a good life (or even worse, they think that lacking knowledge of their pet discipline dooms

one to an inferior life).

In short, we can make sense of why the skeptic is learned or even wants to be erudite because, first, the skeptic method of *epochē* is intrinsically tied up in investigation, and the skeptic has found that the pursuit of *epochē* by this method leads to the goal of *ataraxia*. Also, there is no way of knowing prior to investigation whether the science describes the *phainomena* or not. Finally, investigation of the dangerous, threatening subjects is seemingly the only way to be critical of them in way that leads to suspension. I take it that this provides the answer to the the Erudite Skeptic problem.

The Teaching Expertise problem is more difficult. Recall that this puzzle invokes the role that the teaching of *technai* plays in Sextus' account regarding how the skeptic can act. The teaching of *technai* is one of the fourfold observance, which constitute the *phainomena*. The problem can be described as a dual mindset that Sextus seems to model regarding expertise. On the one hand, he denies that there is any teaching of expertise. On the other hand, he claims that the skeptics can live by following such teaching. Can we make sense of his double minded view of teaching and expertise?

One reason that we might find the skeptical acceptance of *technē* puzzling results from the general view among ancient philosophers that the expert has knowledge about the nature of things.⁵³¹ If *technē* requires expert knowledge about the nature of those things related to the expertise, then clearly the skeptic cannot accept any form of *technē*. However, it is well known that the nature of expertise was a longstanding matter of

⁵³¹For example, Plato at *Gorgias* 464e2-465a7. Aristotle says that *technē* is a true productive state (*hexis*) with a rational account (*logos*) (*EN* VI.5 1140a20-23). See also Olympiodorus' *Commentary on Plato's Gorgias* 12.1ff where the author offers several Stoic definitions which all involve the expert's having a *hexis* that proceeds methodically.

debate, and it should be no surprise that the skeptics accepted a form of expertise that did not require knowledge of the natures of things. Thus, in chapter 4, I described the way in which skeptical science follows the appearances. This explanation of the structure of skeptical science goes some way toward solving the Teaching Expertise problem. If a *technē* is simply a collection of commemorative signs, then the skeptic can teach and accept such a discipline without being committed to any dogmatic beliefs.

Still, one might worry that there is a lurking problem. We may be able to give an account of the content of the skeptical science without attributing dogma to the skeptic. But can we explain why the skeptic pursues one set of signs as opposed to another? Can the skeptic, in some sense, justify her use of these signs? Obviously, skeptical science cannot be pursued for its own sake; the skeptic allows no purely theoretical rewards. So, it must be useful for something. Here again, the worry arises that a skeptical science may presume too much of the dogmatic notion of *technē*. Can there be a non-dogmatic aim to science? This is not a trivial question, and I will briefly tackle it in the next section.

5.2 The Usefulness of a Skeptical Expertise

For all of the debate in the ancient world about the nature of *technē*, the one thing that philosophers seemed to agree on was that a *technē* had to be useful. Aristotle makes the point most starkly, given that he considers *technē* to be a productive expertise in contingent matters (*EN* VI 4 1140a1-1140a24) whereas *epistēmē* is of necessary truths (*EN* VI 3 1039b18-24, cf. *Post. An.* 71b9-16).⁵³² But even before Aristotle, it is quite clear

⁵³²For my purposes here, I do not distinguish between the “productive” and the “practical” in the way that Aristotle does.

that a *technē* falls in the realm of practical knowledge.⁵³³ So, it is perhaps unsurprising that the skeptics would accept forms of practical expertise as part of the criterion of action. The real problem is in understanding what exactly counts as being useful or beneficial.

Aristotle's hierarchy of ends illustrates this point. Aristotle claims that every action is done for some purpose or end (*EN* I 1 1094a1-4), and he describes each proximate purpose leading to some further goal such that ultimately there must be a final end or good that the action seeks that is not sought for any other purpose. Aristotle claims that there must be a final end to our action lest it be futile and empty (*EN* I 2 1094a18-22). Leaving aside any evaluation of this claim, it is clear from what Aristotle says that he thinks our action – including those that fall under some particular skill – is directed toward *eudaimonia* (*EN* I 4 1095a14-20). Therefore, on at least one philosophical account of usefulness, a *technē* is useful just in case it contributes to our happiness.

The skeptic obviously should not have this conception of usefulness; it is dogmatic to claim that a skill is good because it contributes to our happiness.⁵³⁴ Similarly,

⁵³³The author of the Hippocratic treatise *On the Art* argues that medicine is a legitimate *technē* by claiming that people are healed by doctors (IV) and that medicine has the power to benefit its patients (V). The concept of *technē* runs throughout the Platonic corpus, and clearly seems to have been a favorite topic of Socrates repeatedly drew the analogy between the skilled expert and the person who knows how to live well. See, for example, *Apology* 25a12-c1 where Socrates argues that the expert benefits his subject. At *Crito* 47a2-48a10, Socrates argues that we should only listen to and respect the opinions of the knowledgeable expert and not opinions of the masses because the experts benefit their subjects. The point is clearly expressed in *Republic* I where Socrates and Thrasymachus argue about whom a *technē* benefits (346a6-349a2). They both agree that it benefits someone; they disagree about who is the beneficiary, the expert himself or the subject of the expertise.

⁵³⁴The reason that such an assertion is dogmatic is that it implies that the skeptic has a substantive account of *eudaimonia*. This is something Sextus ought not have, as a skeptic, and he seems to avoid it in *PH* I (cf. 25-30). There are a lot of issues here, which I cannot hope to address entirely in this context. One issue is whether and to what extent Sextus is consistent on this issue across his writings. Richard Bett has argued that Sextus could (and does) coherently take a position on *eudaimonia* in *Against the Ethicists* because the skepticism expressed there is a form of what I called weak modal negative dogmatism (see section 2.2 above). For a good discussion of this issue, see Bett (2003). As Bett also

as a suspensive skeptic, Sextus should not affirm that a skill is useless because it *cannot* contribute to happiness. In fact, we've already seen that Epicurus argues – like Aristotle – that the purpose of philosophy and learning is the pursuit of *eudaimonia* (*Letter to Menoeceus* DL X 122), and it appears that Epicurus also argued against many subjects of study on the basis that such they do not contribute to *eudaimonia* (M I 1).⁵³⁵ Sextus notes that such arguments are dogmatic (M I 6); we've already discussed how these arguments represent a form of weak modal negative dogmatism. Given that Sextus recognizes these arguments for what they are, we should not think that he accepts them or assents to their conclusions even though he uses them.

Sextus' awareness of the dogmatic nature of certain arguments from usefulness have caused some scholars to conclude that most references to usefulness in *Against the Professors* are dogmatic and therefore not genuinely skeptical.⁵³⁶ But, while I agree that Sextus clearly links *some* of the arguments about usefulness to Epicurus, he also makes it quite clear, both in *Against the Professors* and in the *Outlines* that he accepts certain practices and skills as useful (M I 49-53; V 1-2; PH I 236-237). The problem then is understanding in what sense something is useful from a skeptical standpoint without being tied to or committed to a dogmatic view of *eudaimonia*.

First, let us consider what Sextus says about usefulness in his discussion of the

argues there, the skeptic of the *Outlines* cannot consistently suspend judgment on all philosophical matters and hold a position about the content or constitution of *eudaimonia*. Many scholars agree on this. See, Hankinson (1994); Hankinson (1997); Machuca (2006); and Striker (1990). However, a number of scholars have criticized Sextus on this matter, arguing that he cannot possibly suspend judgment and act intentionally, or that he must be committed to a substantive conception of *eudaimonia* after all. See Annas (1993, 207–213); Burnyeat (1980); Moller (2004).

⁵³⁵Diogenes Laertius likewise says that Epicurus singled out dialectic for being superfluous (X 31).

⁵³⁶Barnes (1988) seems to suggest, at certain points, that the appeals to utility come primarily from Epicurean sources (63-66, 72-75). Bett (2006) also links the arguments dealing with usefulness to Epicurus.

skeptical *telos*. Sextus makes it clear that the skeptic has an end and that he understands that end in the usual philosophical sense. He says that “an end is that for the sake of which everything is done or observed, and which is itself not done or thought for the sake of anything; or an end is the ultimate object of desire.” (*PH* I 25).⁵³⁷ Now, as I have argued elsewhere, it would be a problem if Sextus thought about the *telos* of skepticism in the way that Aristotle describes the end as I’ve outline above.⁵³⁸ The sense in which Aristotle means to describe the end is spelled out in terms of a common human nature, something that we all share in virtue of the type of being we are (*EN* I 7 1097b22-30). In contrast, Sextus does not think of the skeptical *telos* in this way. For one, he makes it clear that the skeptical end avoids a commitment to thinking that anything is good or bad by nature. He gives his reason for this saying,

The one believing that something is good or evil by nature is troubled in every way. Indeed, when the things that seem to him to be good are not present, he thinks himself pursued by the things that are evil by nature and he chases after the good things, or so he thinks. When he attains those things, he encounters more troubles, both because of the fact that he is excited in an unmeasured way contrary to reason, and since he is afraid of change, he does everything in order that he not throw away those things which seem to him to be good. (*PH* I 27)⁵³⁹

Sextus goes on to say that those who do not believe anything to be good or evil by nature do not pursue anything with intensity and are therefore tranquil (*PH* I 28). I think we can conclude from this that he does not consider the skeptical end to be an account of the

⁵³⁷ἔστι μὲν οὖν τέλος τὸ οὗ χάριν πάντα πράττεται ἢ θεωρεῖται, αὐτὸ δὲ οὐδενὸς ἔνεκα, ἢ τὸ ἔσχατον τῶν ὀρεκτῶν. (*PH* I 25)

⁵³⁸Bullock (2008).

⁵³⁹ὁ μὲν γὰρ δοξάζων τι καλὸν τῇ φύσει ἢ κακὸν εἶναι ταρασσεται διὰ παντός· καὶ ὅτε μὴ πάρεστιν αὐτῷ τὰ καλὰ εἶναι δοκοῦντα, ὑπὸ τε τῶν φύσει κακῶν νομίζει ποινηλατεῖσθαι καὶ διώκει τὰ ἀγαθὰ, ὥς οἶται· ἅπερ κτησάμενος πλείοσι ταραχαῖς περιπίπτει, διὰ τε τὸ παρὰ λόγον καὶ ἀμέτρως ἐπαίρεσθαι καὶ φοβούμενος τὴν μεταβολὴν πάντα πράσσει, ἵνα μὴ ἀποβάλλῃ τὰ ἀγαθὰ αὐτῷ δοκοῦντα εἶναι. *PH* I 27

human good, *eudaimonia*. Moreover, he also makes it clear that the skeptics as a so-called school did not have a unified view of the end. He closes the chapter by observing that other skeptics include *epochē* in the skeptical end (*PH* I 30).

Given this considerations, I agree with many scholars who have observed that Sextus' account of the end cannot be eudaimonistic in the sense that some have claimed. However, it does seem clear that Sextus recognizes that that we can act for a purpose. Some actions are for the sake of something. And if this is true, then we should be able to say more about the way in which the skeptics recognized usefulness.

We find Sextus discussing the usefulness of expertise in the very first book of *Against the Professors*. As Sextus is introducing the subject of grammar and explaining the scope of his attack, he says:

Since grammar is twofold, one form professing to teach the elements and their combinations and generally, being a certain skill of writing and reading, the other being a more profound ability than this, not based in bare knowledge of letters, but also in the examination of their discovery and nature, and, in addition, the parts of speech which are organized from them, and anything else if it is perceived to have the same form, it is our intention now, not to speak against the former – for it is harmoniously agreed to be useful by everyone, among whom one must even include Epicurus, even though he seems to hate the professors of the disciplines. In the treatise *On Gifts and Gratitude*, he tried sufficiently to teach that it is necessary for wise people to learn their letters. [50] Even we ourselves, in another way, should say that, not only the wise, but all people should learn their letters. For, clearly, the end [*telos*] of every form of expertise is useful in *Life*. [51] Some forms of expertise aim at the avoidance of things that are troublesome, and others at the discovery of beneficial things. And, medicine is of the first type, since it is a skill for healing and relieving patients of pain. Navigation is of the second type, for all people are especially in need of goods [*chreias*] from other nations. [52] Therefore, since grammatistic through its understanding of letters heals a most lazy passion – forgetfulness – and conjoins with a most necessary actuality – memory – everything is based on it more or less, and it is not possible to teach others any necessary thing without it, nor will it be possible to learn from someone else anything profitable. So grammatistic, in this sense, is one of the

most useful forms of expertise. (M I 49-52)⁵⁴⁰

We need not look at why Sextus thinks he should reject the second type of grammar to see that expertise in reading and writing is acceptable to the skeptic; he even indicates that it is essential to *Life*. One might worry that Sextus is not speaking in *propria persona* here, but as I suggested earlier, we have good reason for thinking that he does.⁵⁴¹ First, he clearly distinguishes Epicurus' view from his own, which he expresses in the first person plural. Both Sextus and Epicurus agree that reading and writing is useful, but, whereas Epicurus is only concerned with the contribution that reading and writing make toward the achievement of wisdom, Sextus advocates for universal literacy. Grammaticistic is useful for everyone, not only the wise. By differentiating his reason for accepting the

540[49] Πλήν διττῆς οὔσης γραμματικῆς, τῆς μὲν τὰ στοιχεῖα καὶ τὰς τούτων συμπλοκάς διδάξειν ἐπαγγελλομένης καὶ καθόλου τέχνης τινὸς οὔσης τοῦ γράφειν τε καὶ ἀναγινώσκειν, τῆς δὲ βαθυτέρας παρὰ ταύτην δυνάμεως, οὐκ ἐν ψιλῇ γραμμάτων γνώσει κειμένης ἀλλὰ κὰν τῷ ἐξετάζειν τὴν εὐρεσίαν αὐτῶν καὶ τὴν φύσιν, ἔτι δὲ τὰ ἐκ τούτων συνεστῶτα λόγου μέρη καὶ εἴ τι τῆς αὐτῆς ιδέας θεωρεῖται, πρόκειται νῦν ἀντιλέγειν οὐ τῇ προτέρᾳ· συμφώνως γὰρ κατὰ πάντας ἐστὶ χρειώδης, ἐν οἷς θετέον καὶ τὸν Ἐπίκουρον, εἰ καὶ δοκεῖ τοῖς ἀπὸ τῶν μαθημάτων διεχθραίνειν· ἐν γοῦν τῷ περὶ δώρων καὶ χάριτος ἰκανῶς πειρᾶται διδάσκειν ὅτι ἀναγκαῖόν ἐστι τοῖς σοφοῖς μανθάνειν γράμματα. [50] καὶ ἄλλως, εἴπαιμεν ἂν ἡμεῖς, οὐ σοφοῖς μόνον ἀλλὰ καὶ πᾶσιν ἀνθρώποις. ὅτι γὰρ πάσης τέχνης τὸ τέλος εὐχρηστόν ἐστι τῷ βίῳ, φανερόν. [51] τῶν δὲ τεχνῶν αἱ μὲν προηγουμένως ὑπὲρ τῆς τῶν ὀχληρῶν ἐκκλίσεως παρήλθον, αἱ δὲ ὑπὲρ τῆς τῶν ὠφελίμων εὐρέσεως. καὶ ἔστι τῆς μὲν πρώτης ιδέας ἰατρικῆ, παιωνίς οὔσα καὶ λυσίπονος τέχνη, τῆς δὲ δευτέρας κυβερνητικῆς· τῆς γὰρ ἀπὸ τῶν ἄλλων ἔθνων χρείας μάλιστα δέονται πάντες ἄνθρωποι. [52] ἐπεὶ οὖν ἡ γραμματιστικὴ διὰ τῆς τῶν γραμμάτων ἐπινοίας ἰᾶται μὲν ἀργότατον πάθος, τὴν λήθην, συνέχει δὲ ἀναγκαιοτάτην ἐνέργειαν, τὴν μνήμην, τὰ πάντα ἐπ' αὐτῇ κεῖται σχεδόν, καὶ οὔτε ἄλλους τι ἔνεστι τῶν ἀναγκαίων διδάσκειν οὔτε παρ' ἄλλου μαθεῖν τι τῶν λυσιτελῶν χωρὶς αὐτῆς δυνατὸν ἔσται. οὐκοῦν τῶν χρησιμωτάτων ἡ γραμματιστικὴ. (M I 49-52)

541Blank (1998) considers the possibility that the sections 50-52 come from an Epicurean source (i.e. either *On Gifts and Gratitude* or the source which cited it). He seems to lean toward this interpretation although he admits that Sextus himself could be offering these arguments. Blank favors the view that this text is Epicurean because “the preoccupation of our passage with usefulness indicates that it is Epicurean in origin” (121). But he admits that there is nothing particularly Epicurean about the language and the division of the arts into useful for avoidance vs. useful for benefit does not seem to correspond neatly to any other division of the arts. As I have suggested above, although it is clear that Epicurus argued against forms of expertise on the basis of their usefulness, Sextus is also interested in the usefulness of *technai* as part of the criterion of action and as means to achieve certain skeptical goals. Moreover, although Blank finds echoes of the Stoic definition of *technē* in the phrase “useful for life”, one might equally hear the emphasis on the skeptical *Life, bios*.

grammatical expertise from Epicurus', Sextus indicates that he accepts it as useful himself.

Second, Sextus' reason for accepting reading and writing seems to cohere with other things that he says, especially in the *Outlines*. As I have already discussed, *bios* plays the role of a regulating standard in skepticism, and we see it playing that role again in this passage as Sextus appeals to *Life* when he discusses the aim of *technē*. In fact, here Sextus explicitly affirms the claim I made earlier – that *technē* was essentially something practical or useful according to ancient thinkers.

This passage seems to reaffirm Sextus' earlier claims that the skeptic is erudite. First, in differentiating his view from Epicurus', Sextus implies that he himself does *not* despise the professors in the way that Epicurus does. This brings to mind the clear contrast that he develops in the proem between Epicurus' hostility toward the disciplines versus the skeptic's erudition and experience (*M I* 1-6). In addition, at *M I* 52, he affirms that literacy is necessary for teaching (*didaskein*) and learning (*mathein*). Insofar as the skeptic is learned and investigates all of these subjects, reading and writing are a necessary skill for the skeptic to develop.

Finally, if usefulness distinguishes reading and writing from the dogmatic grammar that Sextus will go on to attack, then we should look at what he says about how grammar is useful.⁵⁴² In this passage, Sextus differentiates between two types of

⁵⁴²Usefulness is not the only thing that distinguishes these subjects in Sextus' view. A few paragraphs later, he indicates that the unacceptable grammar is both boastful (πέρπερον) and rather meddlesome or superfluous (περιεργότεραν) (*M I* 54). These features parallel the kind of criticism that Sextus levels at the Chaldean astrologers who think themselves holy and who try to instill fear in others. In other words, the grammarians seem to be invasive dogmatists and this fact, combined with grammar's uselessness, gives Sextus reason to attack the subject.

usefulness. Some *technai* (like medicine) help us avoid things that are troublesome and painful, while others (like navigation) help us gain things that are beneficial. The former type of expertise reminds us of the skeptical *telos*. The skeptic not only seeks *ataraxia* with regards to belief, but also seeks to limit suffering when dealing with those things that are unavoidable (*PH* I 25). Of course, those matters that are forced upon us can be made better or worse. Sextus' own examples are being cold or thirsty (*PH* I 29).

Obviously, skills that help one avoid such difficulties can aid the skeptic in achieving her aim. The example Sextus uses to illustrate the second type of expertise is strange. He claims that navigation helps us gain what is beneficial because “all people are especially in need of goods [*chreias*] from other nations” (*M* I 52). This amounts to saying that navigation is useful because it helps us procure what is useful. The instrumental value that piloting a ship has – according to Sextus – is understood in terms of helping us gain things that have instrumental value. There is no fundamental or intrinsic good to be found in his gloss on the second type of expertise.

When Sextus applies this dichotomy of *technē* to reading and writing, we see that literacy falls into both groups.⁵⁴³ First, it helps us avoid pain and trouble by curing forgetfulness.⁵⁴⁴ Second, it helps us actualize our memory, which is useful for many other tasks.⁵⁴⁵ Clearly, Sextus' types of expertise are not meant to be mutually exclusive since the same skill can help us avoid pain and gain benefit. Moreover, as I mentioned above,

⁵⁴³Blank (1998) says, “Grammaticistic is placed at the head of both classes” (120-1).

⁵⁴⁴Sextus does not consider that sometimes forgetting can be a way to avoid pain and trouble.

⁵⁴⁵Blank (1998) cleverly points out that “there is in the praise of the expertise of letters a conscious inverse of the critique of the invention of letters by Theuth in Plato's *Phaedrus* 274d ff.” (122). Recall that Thamus claims that reading and writing actually facilitates forgetfulness and encourages the atrophy of memory. One may well be tempted to think that Sextus is implicitly appealing to an “extended mind” view of memory here. cf. Clark and Chalmers (1998).

Sextus claims that reading and writing are fundamental to all teaching and learning. He exaggerates, perhaps, when he says that one cannot learn anything else without it. But even if some more practical, hands-on skills can be learned without reading, it is clear that one could not be a skeptic without learning to read since investigation into the philosophical theories of others is essential to skeptical practice.

In this passage, we can begin to see a way to answer the final puzzle of the Teaching Expertise problem. Recall that I raised the question whether the skeptic can justify pursuing one form of expertise, rather than another. Can there be a non-dogmatic aim to skeptical science? The way in which Sextus portrays the usefulness of grammaticistic could be clearer. But, it seems that he justifies the pursuit of the basic grammatical expertise on the basis of its usefulness, where that usefulness does not specify any ultimate purpose. Rather, it is formulated in instrumental terms. Reading and writing is useful for doing other things. What things? Perhaps, the answer is just this: whatever you like. Sextus does not guarantee that literacy is a stepping stone to wisdom, as Epicurus does, or to happiness. But he does think it will help you get what you want.

Moreover, this most fundamental of useful skills is essential to pursuing the skeptical life. Insofar as skeptical investigation requires reading and writing, the skeptic must use it. This point forms the basis of the argument that Sextus makes in the next paragraph when he says,

Of course, at any rate, while we may want to, we will not be able to destroy this [claim] in a way that does not overturn our attempt.⁵⁴⁶ For if the attempts to teach

⁵⁴⁶The word ἀπεριτρέπτως is interpreted by most translators to refer to self-refutation. It's important to be clear in just what sense it is a refutation. The word ἀπεριτρέπτος is relatively unusual before Sextus' time (after Sextus, it becomes more common among Christian writers. It is a favorite term of St. John

that grammatic is useless are useful and it is not possible that they be remembered or transmitted without it, then grammatic is required... (M I 53)⁵⁴⁷

Sextus is aware one might think that he should, as a skeptic, attack reading and writing as well as the other forms of grammar. But he defends his position by suggesting that such an attack will lead to a performative contradiction. The skeptic might very well argue that reading and writing are useless, but will she publish such an argument? Does she expect others to read it? If the arguments themselves are useful to those who are aware of them, then the means to spread them to others will be useful too. And even if Sextus does not have a theory about the good human life, still his philanthropic attitude pushes him to share with others those arguments that they might find beneficial.

Blank has suggested that this argument relies on self-contradiction in a way similar to Aristotle's "one must philosophize in order to say that one must not philosophize."⁵⁴⁸ This cannot be correct if he understands Sextus to be saying that "one must read and write in order to say that reading and writing is useless." Such a claim is obviously false, since one can say that reading and writing is useless without reading and writing (as many illiterate anti-intellectuals probably have). Instead, Sextus is saying that the practice of skepticism relies on reading and writing. Literacy is a necessary part of the

Chrysostom who seems to use it to mean immutable). Plutarch uses it in *De sollertia animalium* (983c) where he is describing that the halcyon builds its nest in such a way that it cannot be overturned. What does it mean for Sextus to say that he cannot destroy or deny the claim in a "non-overturning way." In this case, it must be the denial that is overturned because of the adverbial use. But notice that Sextus goes on to explain that the it is not overturned in denying itself, but in teaching the denial. The contradiction only enters when the claim is communicated. This means that we should interpret ἀνελεῖν, not logically (i.e. where a denial is the negation of an affirmation), but rather epistemically (i.e. because what is destroyed is his students belief in the particular).

⁵⁴⁷ἀμέλει γοῦν οὐδὲ θελήσαντες δυνησόμεθα ταύτην ἀπεριτρέπτως ἀνελεῖν· εἰ γὰρ αἱ ἄχρηστον διδάσκουσαι τὴν γραμματιστικὴν ἐπιχειρήσεις εἰσὶν εὐχρηστοί, οὔτε δὲ μνημονευθῆναι οὔτε τοῖς αὐτοῖς παραδοθῆναι χωρὶς αὐτῆς δύνανται, χρεώδης ἐστὶν ἡ γραμματιστική. (M I 53)

⁵⁴⁸Blank (1998, 123).

skeptical life. So, Sextus' claim is really that one cannot be a skeptic (of the sort he is, at any rate), and argue that reading and writing is useless. Basic literacy is both useful for and used by the skeptic.

The idea that Sextus thinks literacy is essential to skepticism is further supported by his attempts to argue against the opponent who suggests Timon (and perhaps Pyrrho) eschewed literacy (*M I 53*). Sextus argues that what Timon means when he seems to say that we need not look into grammar is that, once we have learned how to read and write, we need not go any further into those aspects of grammar which are boastful and superfluous (*M I 54*). The fact that Sextus is at pains to show that Timon does not reject reading and writing is further evidence that he genuinely means to affirm the usefulness of being literate.

So, what should we conclude? I have argued that Sextus' distinction between useful grammatical expertise and useless grammar is his own, which in turn suggests that the distinction between being useful to avoid trouble and useful to gain benefit are also his own. The former type of usefulness clearly aligns with the skeptic goals of *ataraxia* and *metriopatheia*, so we might say that the skeptic will accept those skills which contribute to skeptical aims without making any claims that that end is, in some way, natural, normative, or universally sought. At the same time, the latter type of useful *technē* does not clearly differentiate one skill from another because it simply says that the skeptic will accept as useful those skills which are useful. Clearly, Sextus seems to have in mind such *technai* as farming, navigation and his empirical astronomy (cf. *M V 2*), but his description of the distinction is largely empty of any means for discriminating among

the useful and useless skills.

While this may seem like a problem, I would suggest that Sextus' move is largely intentional. The skeptic is not interested in defining exactly what counts as useful – in the way that Epicurus is (i.e. useful *for* wisdom or happiness) – because the skeptic is not committed to an ultimate end that everyone shares. What the doctor might find useful, the farmer may not. Of course, Sextus is clear that everyone will find reading and writing to be useful, but not because it leads to happiness. Rather, you cannot learn anything else without it.

This means that the skeptic does affirm a relative normativity when it comes to some skills. Many forms of *technē* should be followed given that one accepts the end(s) that they seek. But the skeptic does not attempt to differentiate in any philosophical or theoretical way which ends are superior and which are not. At the same time, she clearly accepts certain goals and forms of expertise. However, when the skeptic attacks skills for being useless, such arguments must be *ad hominem* and deployed for dialectical purposes.

This leads me to think that the question I raised earlier about how the skeptic justifies the acceptance of one *technē* as opposed to another is a non-issue. Or rather, the skeptic may reject some forms of expertise as dogmatic and not practice them for that reason. But she will not reject a skill on the basis that it is not useful (as Sextus says, that is a dogmatic argument, *M I* 5). Of course, the skeptic learns about many subjects and skills which are dogmatic. She also has the opportunity to learn forms of expertise which are not dogmatic. What distinguishes the skills that the skeptic accepts is not their

usefulness, but their content and the attitude of their adherents.

Sextus attacks the dogmatic grammarians because they are so vain and arrogant that they have deluded themselves (*M I 55*) and because they try to cause trouble, making us think that by understanding the finer points of grammar and the ins and outs of Homeric interpretation we will gain access to the truth (*M I 41-43*). In a phrase, Sextus attacks the grammarians because they are invasive dogmatists. And he thinks that the *mathēmata* he targets in *Against the Professors* share this general character.

5.3 Conclusion

The central question of this dissertation is “what is the character of skeptical *technē*?” I can now sum up my answer to that question by saying that an adequate skeptical expertise is constituted by a collection of correlated observed phenomena (what he calls commemorative signs) established empirically through repeated observations, and always open to revision. The objects of these *technai* are limited to observable domains; that is, both the sign and the signified can in some sense be observed. All the same, commemorative signs allow the skeptic to predict future observable occurrences. In general, skeptical expertise is a non-axiomatic or, more generally, non-foundationalist science that does not ground the scientific domain in first principles in the way that we observe in other ancient philosophies of science. Moreover, this science is neither explanatory nor a means to gain knowledge of the world. Finally, the skeptical expertise is normative, but strictly in a relativistic sense. Scientific norms are tied to relative utility rather than truth. No expertise can be countenanced that offers theoretical rewards, just as

no theoretical objects are allowed to be signified. Skeptical expertise serves immediate practical purposes. At the same time, the skeptic is not committed to any ultimate *telos* of a skill. The best that can be offered is a proximate end.

This characterization of skeptical expertise is borne out by my analysis of significant portions of *Against the Professors*. Moreover, we can now see the answers to the problems that have framed this work. The fact that Sextus characterizes the skeptic as erudite is no longer puzzling once we realize that she is continually investigating various topics, both dogmatic and non-dogmatic. The question of why Sextus insists on learning dogmatic subjects presumes that the skeptic can affirm at the outset whether a subject is dogmatic or not. In addition, I suspect that it implicitly relies on a picture of skepticism wherein the skeptic ends an investigation by suspending judgment. As I have argued, the skeptical methodology differs from that picture insofar as the suspension of judgment must come – at least for the skeptic – toward the beginning of the investigation. In a sense, the skeptic never completes an investigation, and therefore, we should not be surprised if she learns many dogmatic subjects along the way.

It is, perhaps, a further question why the skeptic is such an insatiably inquisitive character. I'm not sure this question can be answered. Sextus tells us that the originating cause of skepticism was being troubled by the anomaly of things and wanting to find the truth (*PH* I 12). I suspect that the skeptics were always curious when they ran into inconsistencies or puzzles. But this does little to answer the question.

The Teaching Expertise problem is the more difficult puzzle to answer. My characterization of a skeptical *technē* as being constituted by commemorative signs

which are established through repeated observations and open to revision goes some way to answering how the skeptic could genuinely teach an expertise. Unfortunately, such an answer is incomplete insofar as it tells us something about what the skeptic learns, but does not tell us how the skeptic learns it. In a sense, this project, as it is currently framed, could only give a partial answer to the problem of Teaching Expertise.

It is fitting, therefore, that I should end this dissertation noting the ways in which my investigation is incomplete. If I am right about Sextan skepticism, then skeptical investigation is never complete. And although I am closing this project, in more ways than one, I consider this end to be but a convenient stopping point, rather than the final statement on skeptical science and *Against the Professors*.

One might consider my work to be incomplete, insofar as I have given short shrift to books I, II and IV of *Against the Professors*. If this dissertation were meant to provide a full interpretation of Sextus' treatise, one would surely be right. Even on the question of the skeptical view of expertise, more could be said by looking closely at the attack on grammar and rhetoric. However, I do think that the conclusions I have reached in this work would stand up to whatever might be revealed in that further analysis, so engaging that material in any depth would add little to this project.

The final topic that I think deserves consideration is the skeptical view of education. Ancient thinkers saw a close relationship between learning and expertise, and the skeptics were no exception to this. I take it to be significant that Sextus begins *Against the Professors* with his arguments attacking the possibility of learning anything (*M I 9-40*, cf. *PH III 253-273*, *M XI 216-256*) before he goes on to argue against the

particular subjects in the treatise. But, we have also seen in the discussion of the Teaching Expertise problem that the skeptics accepted, not only forms of expertise, but also the teaching of those skills. So, I think any complete account of skeptical expertise must address this question, namely, what is the nature of skeptical education? Inasmuch as my work fails to provide a full answer to that question, it falls short to that extent.

Still, I see these issues, not so much as failings, but as opportunities for further investigation. Skeptical science, as I have portrayed it, is never complete because it is not systematic. In much the same way, I have portrayed the attack on the *mathēmata* to be occasional. The subjects that Sextus targets are not unified as a core curriculum in any educational institution. There are, no doubt, other subjects that he could have included, but did not. At the same time, I think that Sextus clearly has a reason for choosing the subjects that he does. The professors of these subjects are invasive dogmatists. They not only hold beliefs about unclear theoretical matters, but they insist that others ought to hold these beliefs too. They subject their students to a kind of attack – attempting to induce fear – the aim of which is psychological occupation. They want to force our commitment to their discipline, and they think this can be accomplished if they scare us into surrendering and submitting to their rule. Like a tyrannical pedagogue, they vainly boast about the importance of their own discipline for achieving success and happiness.

In contrast, while the character of these professors motivates Sextus' attack on them, his argumentation is not focused on merely pointing out their fallacious passionate appeals. He undertakes, in a spirit of fairness and gentleness, to show everyone that these subjects are not without their own problems and anomalies (*M I 6*). He argues that some

disciplines claim to be well founded, but actually are not. He argues that others seem, superficially, to be empirical sciences much like those the skeptic accepts, when really they fail to qualify. He argues that, on their own terms, they are useless or that their theoretical presuppositions have problems of their own. These arguments, of course, can be used to generate suspension of judgment about the dogmatic claims themselves (and will be so used by the skeptic). But, as I have argued, they also have a practical effect. One is less likely to practice a form of expertise that seems problematic, in the way that Chaldean astrology does. This is, I think the ultimate reversal, which makes *M* I-VI so clever. Without being committed to the falsehood of these *mathēmata*, Sextus can practically destroy them if he convinces his readers that they are not truly *technai* – neither in the dogmatic nor the skeptic sense. This is the critique of *technai* in *Against the Professors*.

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